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VOL. 79 NO. 1

textile bulletin

JANUARY • 1953

J. Goldberg's annual accounting of research achievements within the industry 49

Textile outlook for this year & review of operations during the past 12 months 59

JAN 24

SERVING THE TEXTILE INDUSTRY SINCE 1899

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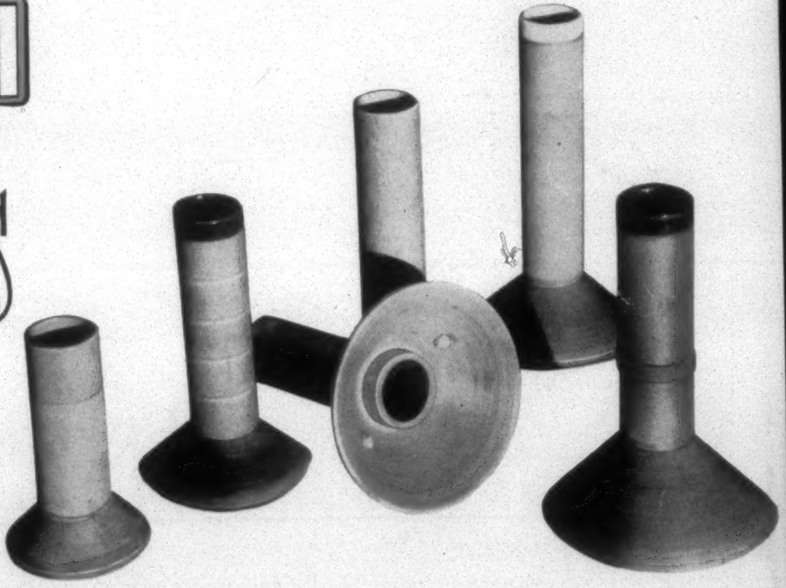
SONOCO
Single Head
SPOOLS



Precision
Paper
Products

A SONOCO development widely accepted by the industry for packaging industrial thread. The tapered base is designed for even and free delivery without "snagging" during "take off".

Available in a range of base diameters and barrel lengths with special surfaces. Colored lacquer tips can be ordered for identification.

SONOCO PAPER CARRIERS

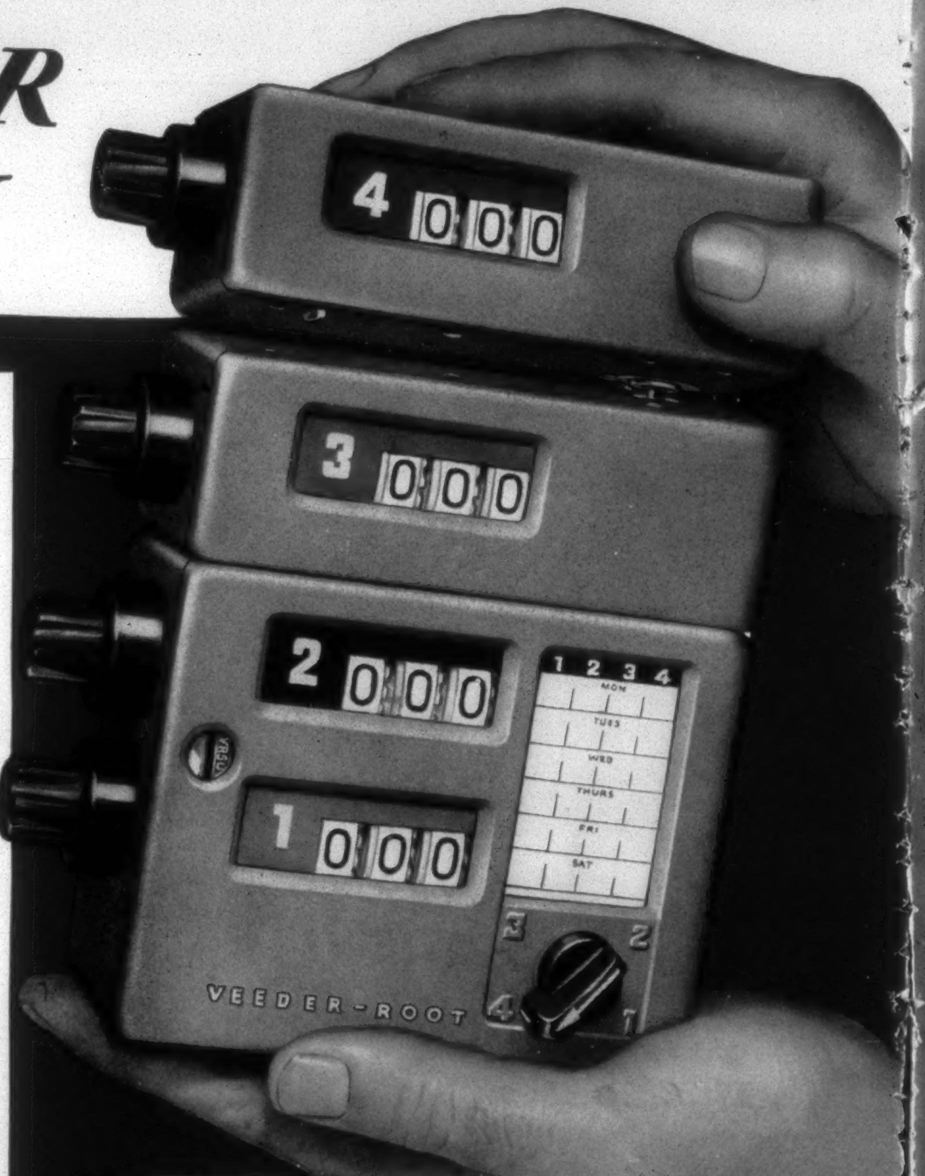
SONOCO PRODUCTS COMPANY
MAIN OFFICE—HARTSVILLE, S. C.
MYSTIC, CONN. LOS ANGELES, CAL. BRANTFORD, ONT.
PHILADELPHIA, PA. GARWOOD, N. J. LOWELL, MASS. GRANBY, QUE.

DEPENDABLE SOURCE OF SUPPLY

VR is 1st Again

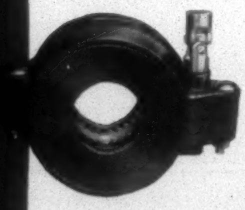
in Advancement of 2-3 Pick and Hank

COUNTER DESIGN



For 30 years, Veeder-Root has scored the important "firsts" in advancement of counter design . . . studying the needs of mill men and giving *them* what they need. Now here again is a V-R "first" which offers additional new features:

- EASIER TO READ, reset and maintain.
- SHEAR-PIN TYPE OF PROTECTION built into reset knob.
- 4th UNIT CAN BE ADDED for use as 4th-shift counter or as totalizer.
- BRASS BEARINGS on horizontal shafts.
- BRONZE OILITE BEARINGS on vertical drive shafts.



NEW PLASTIC CONNECTION (at left) . . . cuts installation time, maintenance costs . . . resists humidity, wear, vibration.

Yes, here again is V-R Value, and in fuller measure than ever before. See your nearest Veeder-Root office

VEEDER-ROOT
INCORPORATED
"Counting House of the Textile Industry"
HARTFORD 2, CONN. • GREENVILLE, SO. CAROLINA
New York 19, N. Y. • Chicago 6, Ill. • Greenville, S. C. • Montreal 2, Canada • Dundee, Scotland • Offices and Agents in Principal Cities

You are invited to visit our new Southern Sales & Service Headquarters — an easy 6-mile drive from Textile Hall, straight out Route 29 on Greenville-Spartanburg Highway.

856607

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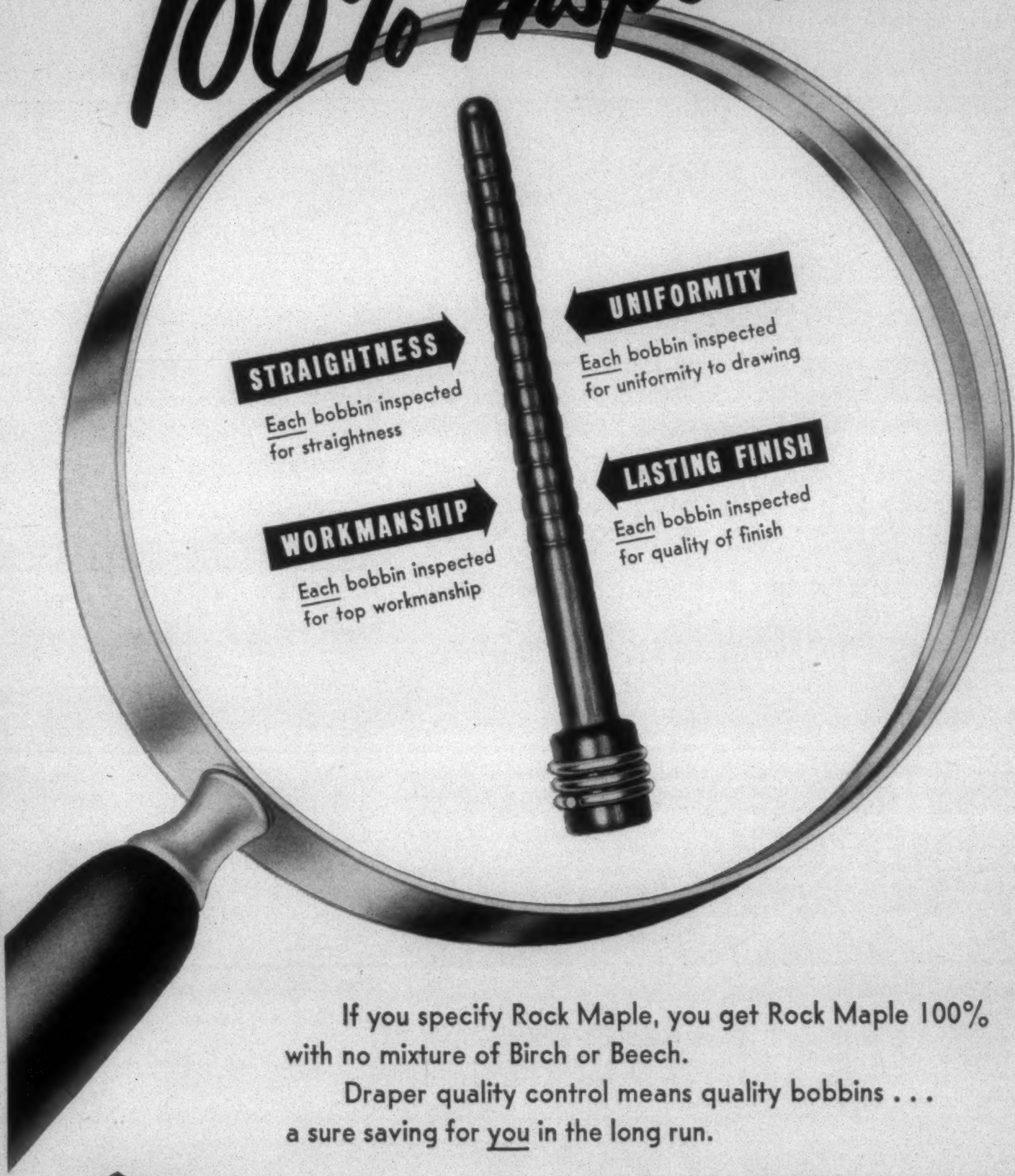
1953

DRAPER BOBBINS are

100% Inspected


STRAIGHTNESS
Each bobbin inspected for straightness
UNIFORMITY
Each bobbin inspected for uniformity to drawing
WORKMANSHIP
Each bobbin inspected for top workmanship
LASTING FINISH
Each bobbin inspected for quality of finish

If you specify Rock Maple, you get Rock Maple 100% with no mixture of Birch or Beech.

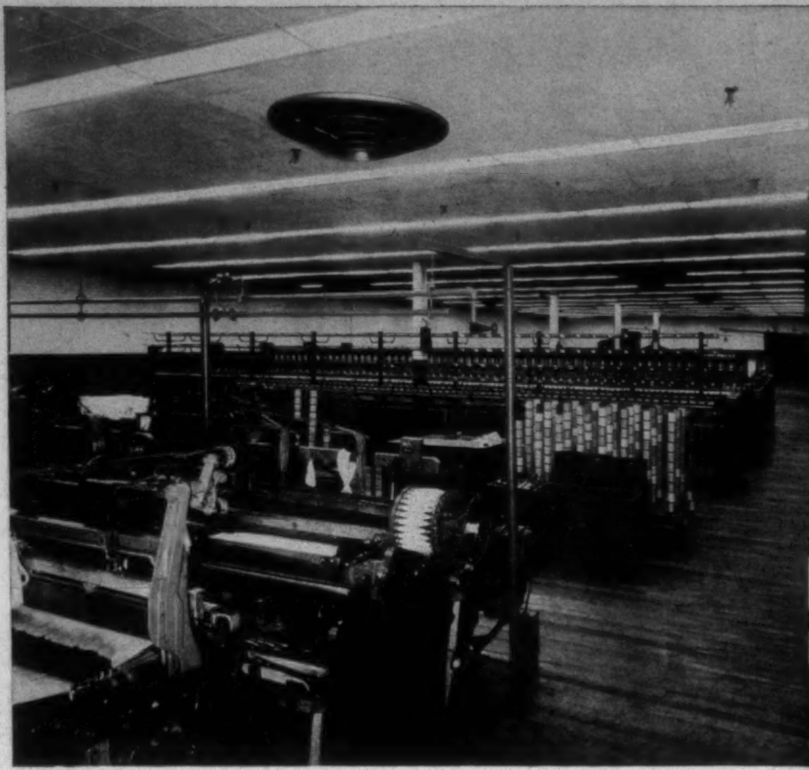
Draper quality control means quality bobbins . . . a sure saving for you in the long run.

DRAPER CORPORATION

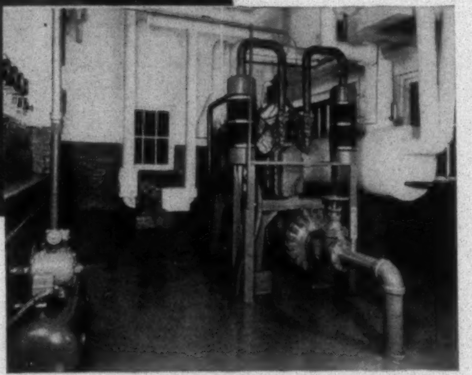
ATLANTA, GA. HOPEDALE, MASS. SPARTANBURG, S. C.

THE WORLD'S LARGEST MANUFACTURER OF AUTOMATIC LOOMS

856607



Pilot Plant of Pepperell Manufacturing Company, Lindale, Ga.



At the heart of the pilot plant is this air conditioning equipment room — containing compressors, water chiller and cool water circulating pump.

PEPPERELL'S PILOT PLANT

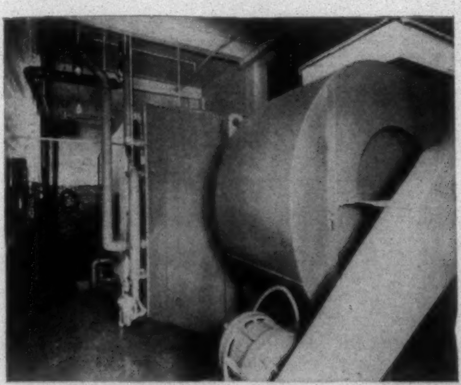
. . . synthetic fiber research at its best!

Amco Central Station Air Conditioning meets Pepperell's exacting specifications for control of temperature, humidity, air cleanliness.

When Pepperell Manufacturing Company built their "miniature mill" at Lindale, Georgia, they set out to produce a nearly perfect pilot plant for test operations with the newest synthetic textile fibers. To maintain complete atmospheric control the year-round, they had Amco install central station air conditioning with refrigeration and electrostatic air filtering. Accurate, adjustable control of temperature and humidity assures the exact conditions required for any given pilot operation. All ducts are hidden for neat appearance and easy housekeeping.

Of course, it isn't always practical, or desirable, to "streamline" a plant like this. Your plant — like many mills — may already have a modern, efficient humidification system. You can easily add COOLING with an Amco ductless system — without discarding anything, and by making only modest alterations.

Amco systems give you a choice of humidification, evaporative cooling (central station, dry duct, or ductless types) or refrigeration, alone or in combination. You can rely on Amco to give you advice on the system best suited to your needs. Call an Amco engineer.



Apparatus room contains air blower and washer

Benefits of Controlled Humidification and Cooling

Regain maintained • yarn counts kept more even • static electricity eliminated • closer machine adjustments and higher speed maintained • less broken fibers, dust and fly • cleaner yarns • stronger, more even fabrics • greater worker comfort and efficiency

AMCO

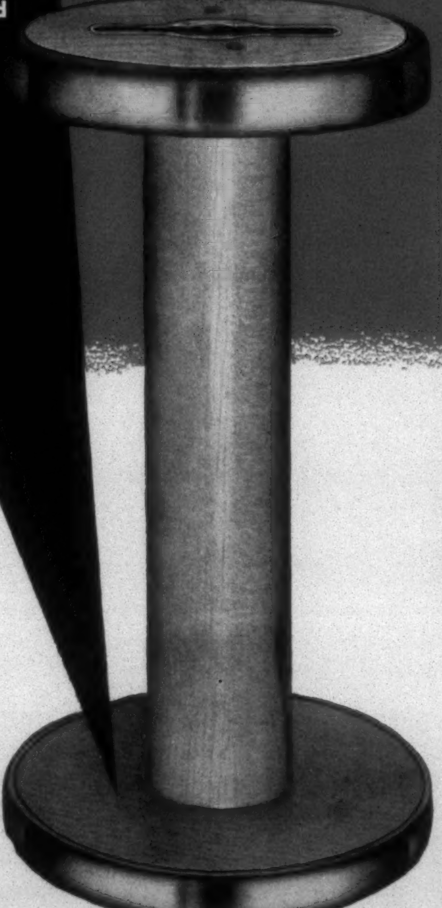
AIR CONDITIONING SYSTEMS since 1888

Humidification • Evaporative Cooling (Ductless or Central Station) • Refrigeration

AMERICAN MOISTENING COMPANY, PROVIDENCE, R. I. • ATLANTA • BOSTON • CAMDEN • CHARLOTTE • AFFILIATED WITH GRINNELL COMPANY, INC.

4000 lbs.
minimum end
pressure

2400 lbs.
minimum end
pressure



# SPOOLS
for
NYLON or RAYON TIRE CORD

GUARANTEED BY U S
to withstand
end pressure as follows
3" spool for (NYLON) 4,000 pounds minimum
5" spool for (RAYON) 2,400 pounds minimum

There is little need for amplifying this amazing guarantee!

U S development, engineering and manufacturing facilities have been employed to the fullest extent in producing these completely guaranteed spools . . . designed and built to carry NYLON (3") or RAYON (5") tire cord yarns without encountering the usual problems of spool failure.

Made of finest quality maple, all U S tire cord spools are individually balanced before shipping:

3" FORMING TWISTER SPOOL at 4,500 R.P.M. on the Universal Bobbin Balancer

5" CABLING TWISTER SPOOL statically balanced up to 5,000 R.P.M.

The performance of these smooth running perfectly balanced spools ensures:

- minimum power consumption
- minimum vibration
- minimum spindle wear
- minimum oil consumption

For extra strength the 3" NYLON spool has case hardened steel end plates with 4 case hardened screws and a brass tube running the full length inside the barrel to withstand crushing; the 5" RAYON spool has 2-ply maple heads screwed on barrels, protective rim shields on each head, dixon driver, brass bushing and special oil and lacquer finish.

U S BOBBIN & SHUTTLE CO.

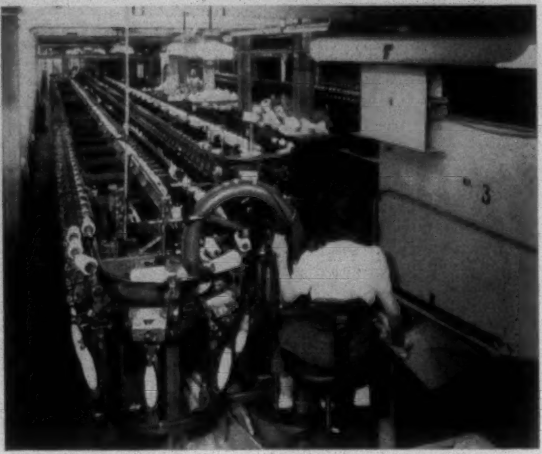
The fact that many of the country's *most important mills** *producing rayon, nylon and cotton tire cord* are now standardizing on U S spools, is an indication of their wide acceptance by the tire cord industry.

Manufacturing Plants
LAWRENCE, MASS. GREENVILLE, S. C.
General Sales Office: LAWRENCE, MASS.
Sou. Division-Headquarters: S. C. National Bank Bldg., Greenville, S. C.
Sales Offices
CHARLOTTE, N. C. JOHNSON CITY, TENN. FORT MILL, S. C. LaGRANGE, GA.
PHILADELPHIA, PA. PROVIDENCE, R. I. MINNEAPOLIS, MINN.
DALLAS: O. T. Daniel, Textile Supply Co.
LOS ANGELES: E. G. Paules, 1762 W. Vernon Ave.
CANADA: W. J. Westaway, Montreal, Que., Hamilton, Ont.

*Names on request

Complete Automatic Winding Systems for Rewound Filling

to take advantage of large package spinning, more yarn on filling bobbins, more uniform bunches, better weaving bobbins, and inspected yarn, all of which go to make a better fabric.

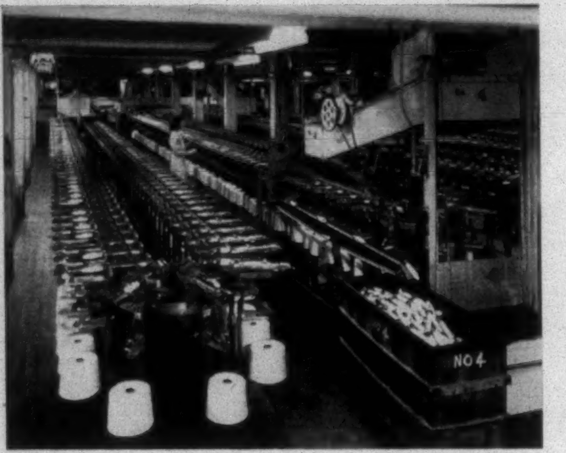


Abbott Traveling Spindle Package Winders

Automatic Cone or Tube Winders for warping, dyeing, twisting, quilling, sales.

Can be equipped with any one of a variety of slub catchers and inspection devices.

Production up to 1000 bobbins per hour per operator.



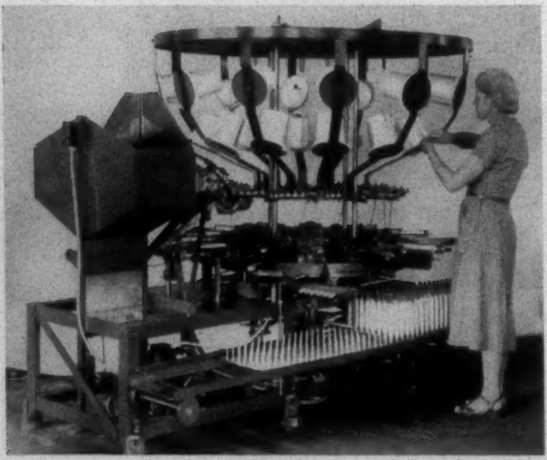
Abbott Traveling Spindle Automatic Quillers

For winding cotton, spun rayon, worsted, etc., equipped to doff automatically into baskets, or stack automatically into boxes.

For rewinding woolen yarn from mule and ring frames.

For winding filament rayon and nylon, etc., with automatic pinboard attachment or wide belt inspection conveyor.

Production up to 2000 bobbins per hour per operator.



Abbott Fully Automatic Radial Quiller

This new quiller has been developed to bring complete automatic quilling to highly diversified mills and the small mills.

For winding cotton, spun rayon, filament rayon, worsted, wool, etc.

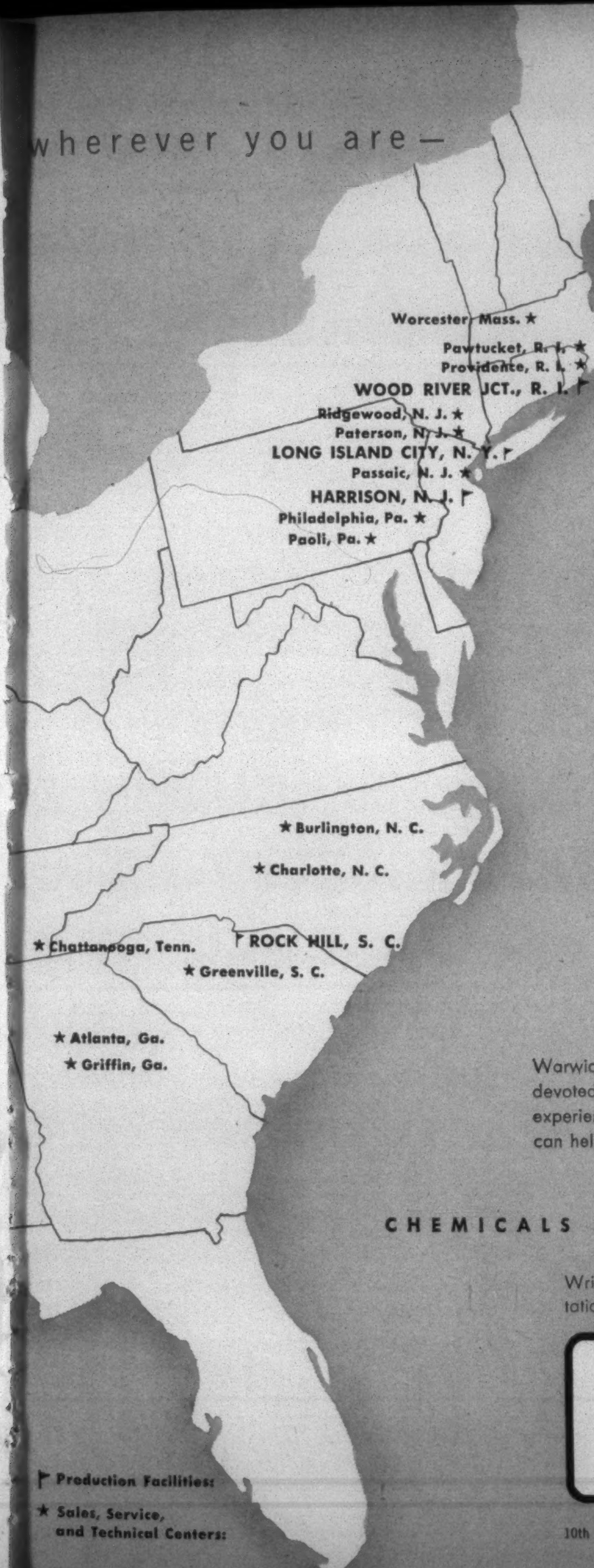
Can be arranged to deliver bobbins to Pinboard Attachment, or into baskets, or onto wide belt conveyor.

Production up to 2000 bobbins per hour per operator.

ABBOTT MACHINE CO., INC.

WILTON, NEW HAMPSHIRE

SOUTHERN SALES AND SERVICE: GREENVILLE, SOUTH CAROLINA wherever you are—



warwick

the only name you need to know in

textile chemicals

- for IMMEDIATE SERVICE
- for UNSURPASSED QUALITY

4 Major Production Facilities same-day or overnight delivery in most areas.

13 Regional Sales, Service and Technical Headquarters serving the textile industry exclusively.

Over 40 Textile Specialists with a wide knowledge of chemicals and textile processes. At your service for consultation, quotations, or with trial lots of any Warwick specialty for demonstration in your own plant.

Warwick Chemical Company is one of America's largest organizations devoted to products and services for the Textile Industry. Our wide experience in research, manufacture, and application of textile specialties can help you solve or clarify any textile chemical problem.

CHEMICALS FOR THE TEXTILE INDUSTRY

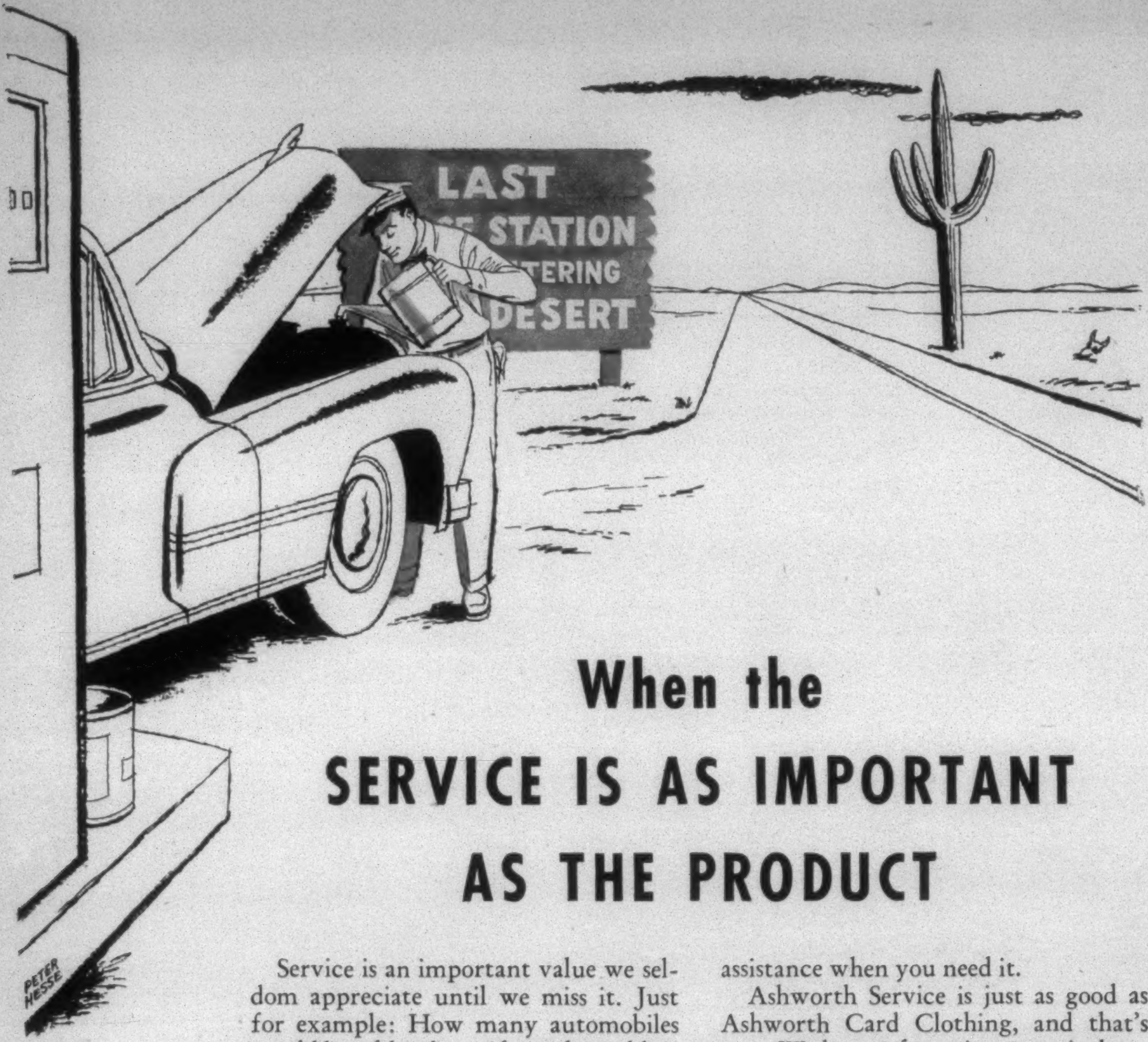
Write, wire or phone for free consultation—without obligation, of course.

WARWICK
CHEMICAL
COMPANY, DIVISION

Sun
CHEMICAL
CORPORATION

10th STREET AND 44th AVENUE, LONG ISLAND CITY, NEW YORK

MAKERS OF RE-TREATABLE IMPREGNOLE* AND DURABLE NORANE* WORLD'S No. 1 WATER REPELLENTS and Antilustrole* dullers • Appramine* cationic softeners • Appretole* anionic softeners • Eumercin* mercerizing assistants • Formaset* textile resins • Hydrolux dyeing and printing assistants • Lanole* tar and grease removers • Norane* 4-Star hydrophobic resins • Organosol coatings for textiles and paper • Plastisol for coating and molding • Prym durable stabilizing, crush proofing, embossing and glazing resins • Setole* textile resins • Sulfanole* synthetic detergents • Suntone* pigment printing colors for textiles and plastics • Warcofix* color fixatives • Warco* GFI gas fading inhibitor • Warcolene finishing oils • Warconyl* fire retardants • Warcosan* wetting and rewetting agents • Warcosol* penetrants • Weave-lok* non-slip finish.* ®



When the SERVICE IS AS IMPORTANT AS THE PRODUCT

Service is an important value we seldom appreciate until we miss it. Just for example: How many automobiles would be sold today—if people couldn't find service stations everywhere, to keep 'em rolling?

As for card clothing, service is as important as the product itself. Quality alone is of little avail—unless the product is quickly and conveniently available, unless you get the best type of clothing for your purpose, unless efficient installation service is near at hand, and unless you can count on technical assistance when you need it.

Ashworth Service is just as good as Ashworth Card Clothing, and that's tops. We have 3 factories, 6 repair shops and 7 distributing points—all strategically located in major textile areas. These assure an adequate supply, convenient repair service and prompt deliveries.

Our staff of practical card men can also give you technical advice, survey your cards and recommend necessary repairs. Write to our nearest plant for further information.

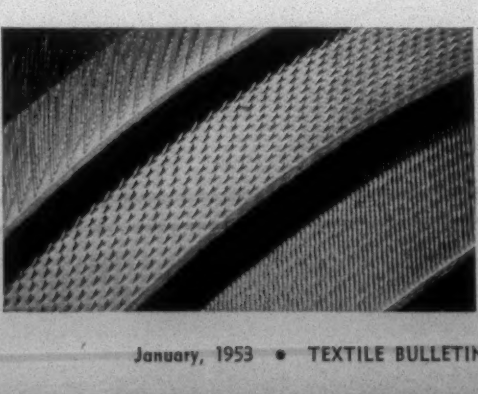
ASHWORTH BROS., INC.

American Card Clothing Co. (Woolen Division)

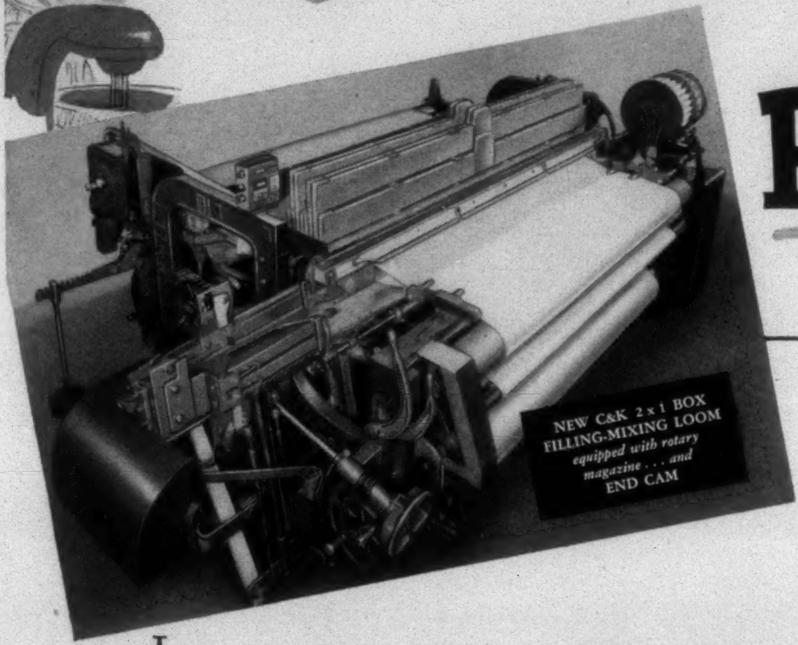
Fall River*†‡ Worcester‡ Philadelphia*†‡ Atlanta†‡
Greenville*†‡ Charlotte†‡ Dallas†‡ (Textile Supply Co.)
Factory* Repair Shop† Distributing Point‡

Ashworth CARD CLOTHING

3 FACTORIES **6** REPAIR SHOPS **7** DISTRIBUTING POINTS



Sweeten Your Profits!



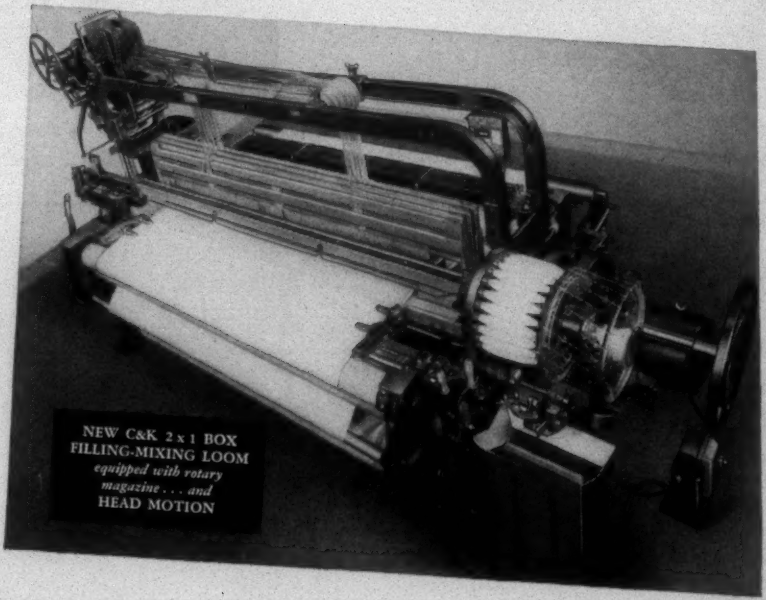
NEW C&K 2 x 1 BOX FILLING-MIXING LOOM equipped with rotary magazine . . . and END CAM

. . . with C&K's Newest Filling-Mixing Looms

Leave your multi-color looms to do their own job. And put in these new C&K Single-Purpose Filling-Mixing Looms to fill out your fabric picture. Here's the story:

C&K has always built *multi-purpose* Filling-Mixing Looms with the Call Box feature. And now C&K has *single-purpose* FM Looms that weave anything in single color, 2 x 1 . . . with all the important economies that only this type of loom can offer . . . and at lower initial cost than you would imagine for a loom that offers all these features: Rotary magazine . . . batwing or cone picking . . . any type of shedding mechanism . . . dobby head motion or end-cam . . . 20% to 25% more yards of good cloth . . . lower maintenance . . . lighter lay . . . A-girts on bottom shafts . . . and many other features.

So if you want the greatest versatility for *your* mill . . . then supplement your weaveroom now with the looms you need from the WORLD'S LONGEST LINE OF FILLING-MIXING LOOMS . . . multi-purpose or single-purpose . . . or both. See C&K, without delay.



NEW C&K 2 x 1 BOX FILLING-MIXING LOOM equipped with rotary magazine . . . and HEAD MOTION

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

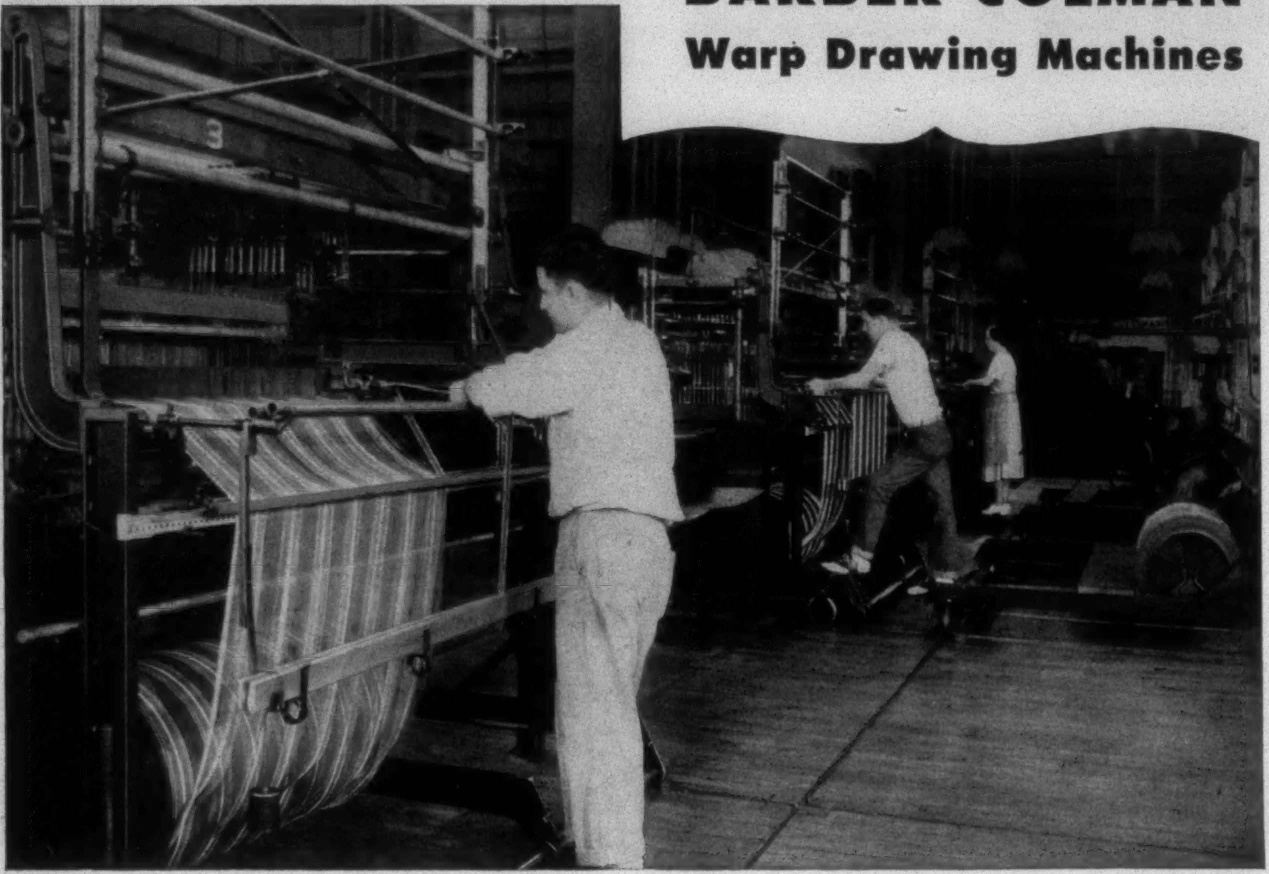
Crompton & Knowles LOOM WORKS

WORCESTER 1, MASSACHUSETTS, U. S. A.

Philadelphia, Pa. • Charlotte, N. C. • Allentown, Pa. • Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

Complicated drafts can be accurately drawn on . . .

BARBER-COLMAN
Warp Drawing Machines



Dan River Mills, Inc., Schoolfield Division, Danville, Virginia, has seven Barber-Colman Warp Drawing Machines. The three shown above, each with capacity for up to 16 harness and 6 banks of drop wires, are operated by two men and a woman with a helper for each machine.

The Barber-Colman Warp Drawing Machine is completely equipped to handle warps from a flat sheet, split sheet, one-and-one lease, or combination of one flat sheet and one leased warp. Warps of cotton, worsted, wool, filament, spun synthetic yarn, or monofilaments can be drawn for plain or dobby weaves. Complicated drafts can be accurately drawn because all the weaving elements are individually controlled from a single sheet metal pattern. Reed, harness, and drop wires are all drawn simultaneously in one loading and setting of the machine.

DATA: Cotton warp, stripe . . . 2992 ends . . . 69 sley . . . dobby or fancy draw . . . 11 harness . . . 4 banks of drop wires . . . 160 picks per minute. (These specifications are typical of the varied work done on the machines illustrated above.)

AUTOMATIC SPOOLERS
SUPER-SPEED WARPERS
WARP TYING MACHINES
WARP DRAWING MACHINES

BARBER-COLMAN COMPANY
ROCKFORD, ILLINOIS, U.S.A.
Framingham, Mass., U.S.A. • Greenville, S.C., U.S.A. • Manchester, England • Munich, Germany

Another New National Aniline Vat

CARBANTHRENE GOLDEN ORANGE 3G PASTE

Exceptionally fast and easy to apply on cotton or rayon, this National anthraquinone vat dye is recommended for high-grade drapery and upholstery fabrics, sewing threads and embroidery yarns as well as a component color in many shades on military fabrics.

Dyed in the reduced bath or by the various pigment padding methods, National Carbanthrene Golden Orange 3G Paste has excellent fastness to washing, water spotting, sea water, perspiration, cross dyeing and light. It is a versatile addition to National's line of vats.

Our nearest office will be glad to furnish samples and application data on this and other new National Aniline Dyes.

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N.Y. • BOwling Green 9-2240

Boston 14, Mass., 150 Causeway St.	CApitol 7-0490	Richmond 19, Va., 8 North Fifth St.	Richmond 2-1930
Providence 3, R.I., 15 Westminster St.	DExter 1-3008	Columbus, Ga., Columbus Interstate Bldg.	Columbus 3-1029
Philadelphia 6, Pa., 200-204 S. Front St.	LOmbard 3-6382	Greensboro, N.C., Jefferson Standard Bldg.	GReensboro 2-2518
San Francisco 5, Cal., 517 Howard St.	SUtter 1-7507	Chattanooga 2, Tenn., James Building	CHattanooga 6-6347
Portland 9, Ore., 730 West Burnside St.	Beacon 1853	Atlanta 2, Ga., 254 E. Paces Ferry Rd.	EXChange 3594
Chicago 54, Ill., The Merchandise Mart	SUperior 7-3387	New Orleans 12, La., 714 Carondelet Bldg.	Raymond 7228
Charlotte 1, N.C., 201-203 West First St.	CHarlotte 3-9221	Toronto 2, Canada, 137-143 Wellington St. W.	Empire 4-6495

TIGHT BINDING

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N. Y. January, 1953

Avcoset® Adds Strong Selling Points To Manufacturers' Lines

Process controls rayon shrinkage, makes fabrics fully launderable, and helps move merchandise faster

A growing number of manufacturers of textile products are turning to Avcoset as a means of offering the consumer additional benefits. Avcoset is a process for stabilizing rayon fibers. It eliminates progressive fabric shrinkage even with repeated washings, enabling mills, converters and manufacturers to promote many rayon fabrics as completely washable.

Avcoset treated fabrics are non chlorine retentive and, therefore, are not adversely affected by normal bleaching during laundering.

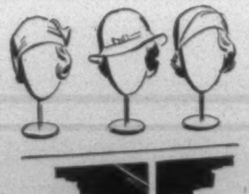
Developed by American Viscose Corporation and made available on a royalty-free basis, the process uses a special cellulose ether-formaldehyde finish that affects only rayon fibers. It is achieving outstanding results in a variety of weaves such as challis, chambray, fuji and other shirting weights. It also is successfully used as a stabilizer for fabrics combining rayon with nylon, acetate and other fibers.

Inquiries about the Avcoset process are cordially invited. Address American Viscose Corporation, Converting Relations Department, 350 Fifth Avenue, New York 1, N. Y.

RAYON 20 YEARS AGO

New York, January, 1933 – A wider range of rayon men's wear specialties was sold this Christmas than in any previous year.

Paris, January, 1933 – New synthetic fur fabrics made of rayon are extremely popular here.



New York, January, 1933 – Millinery leaders are featuring dull-type knitted rayon straw hats.

MAKE USE OF *Avisco*® 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1. **FIBER RESEARCH**
2. **FABRIC DESIGN**
3. **FABRIC PRODUCTION**
4. **FABRIC FINISHING**

AMERICAN VISCOSE CORPORATION

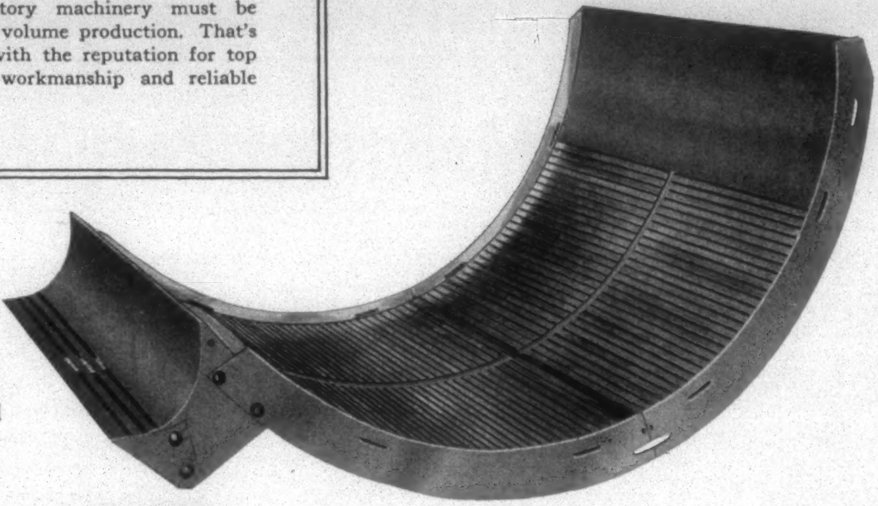
America's first producer of man-made fibers
RAYON ACETATE VINYON* FILATEX®
Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

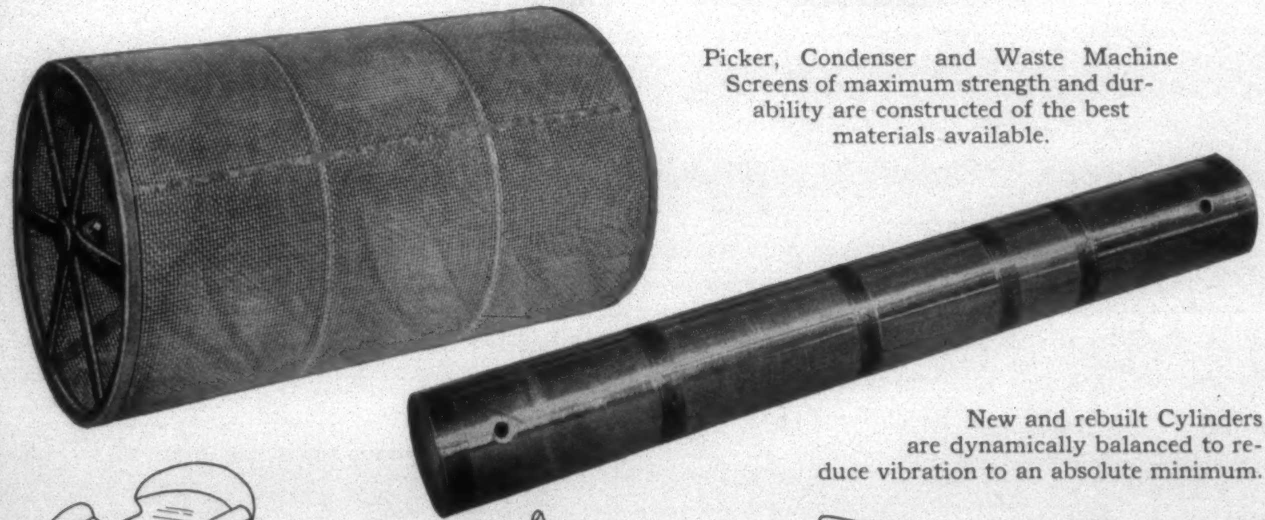
*TMC & CCC

MORE PRODUCTION AT LOWER COSTS with GASTONIA TEXTILE SHEET METAL PARTS

The quality and the profit of your end product starts at the beginning—where preparatory machinery must be geared for efficient, economical volume production. That's our job—a job for specialists with the reputation for top quality products, painstaking workmanship and reliable service.

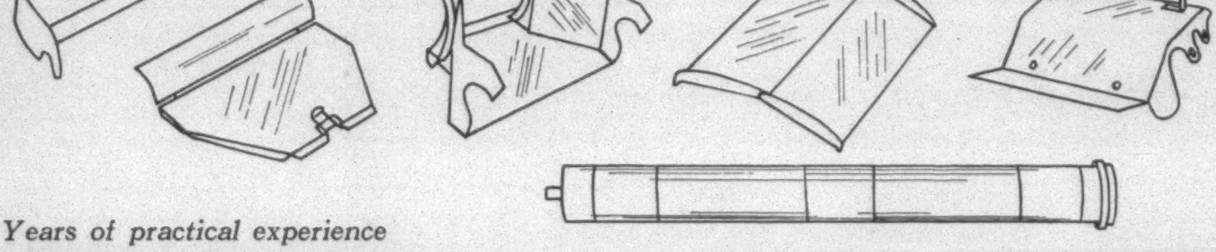
Standard type rib or perforated Card Screens are precision built on special jigs. Every screen is inspected and double checked for accuracy and tolerance.





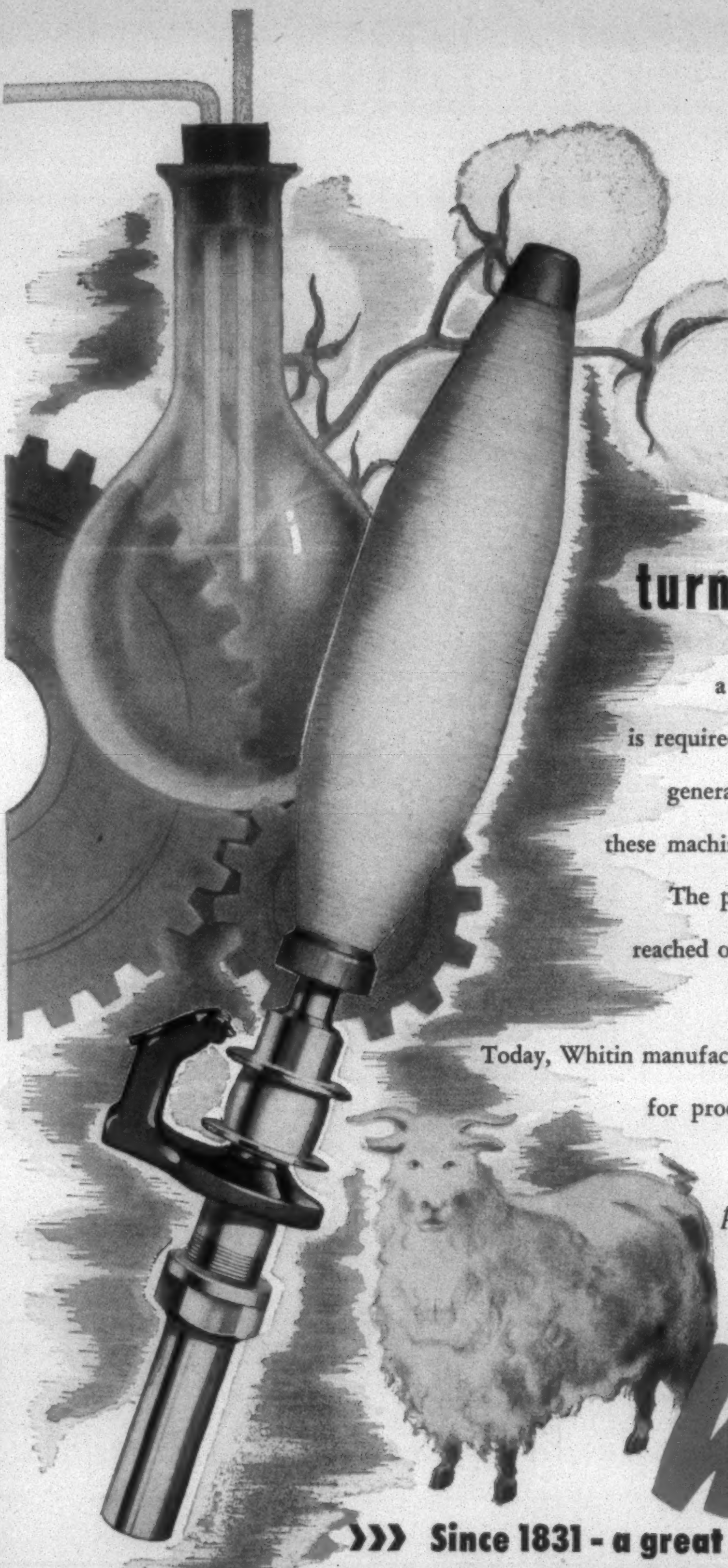
Picker, Condenser and Waste Machine Screens of maximum strength and durability are constructed of the best materials available.

New and rebuilt Cylinders are dynamically balanced to reduce vibration to an absolute minimum.



Years of practical experience —the finest of raw materials —and precision machinery in the hands of skilled workmen go into every product.

GASTONIA TEXTILE SHEET METAL WORKS, Inc.
GASTONIA, NORTH CAROLINA
A SHEET METAL WORKS SERVING TEXTILE MILLS



Whenever man turns fibers into yarn...

a wide variety of highly specialized machinery is required to accomplish this complicated process. For generations, Whitin has been engaged in supplying these machines to textile mills in all parts of the world. The position of leadership in this field that Whitin reached over a century ago and maintains today is based on its policy of "Progress Through Research". Today, Whitin manufactures a complete line of preparatory machinery for processing practically all fibers, both natural and synthetic. For the best in modern, efficient, *profit-producing* machinery—buy from Whitin.

Whitin

>>> Since 1831 - a great name on textile machinery <<<

MANUFACTURERS OF MACHINERY FOR: OPENING • PICKING
CARDING • COMBING • DRAWING • ROVING • SPINNING
TWISTING • WINDING, AND FOR MANY OTHER PROCESSES

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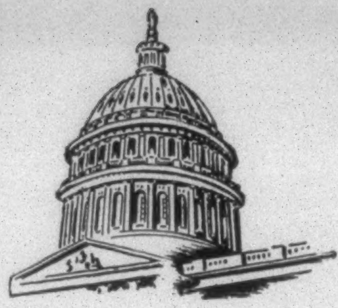

WATCHING WASHINGTON

[Exclusive and Timely News from the Nation's Capital]

Eisenhower will make swift changes in the objectives of economic policy as his Administration gets under way. He will put a check on big spending, paving the way for tax reductions, and there will be curbs on easy credit. More of the national debt will be put into long-term bonds. The government will get out of economic planning. While not inviting painful deflation, he will try to stop the shrinkage in the value of dollars.

Few of the details for changes in economic policy have been revealed by Eisenhower and his advisers. He does intend to make a frank statement to Congress at the outset, and to define a program of co-operation with the legislators in attaining his objectives. The bid will be to both Republicans and Democrats, openly encouraging a coalition. He has no expectation of assistance from the New Deal Democrats, or their allies among the Republicans.

Eisenhower will focus chief attention on economy and reduction in spending, and putting this action ahead of tax reduction. Yet he realizes that a reduction in taxes, even if small in amount, is a certainty in this Congress. Republican leaders feel many votes were cast in November in protest against harsh and cruel taxes, and that failure to cut them in some degree will cost control of both branches of Congress in 1954.

Chairman Reed of the House Ways and Means Committee has entered a bill to cut personal income taxes on June 30, when the Korean war increases expire. He is pushing for early action on the bill, which would affect both middle and lower income groups. On the basis of a full year, the cut would be about 11 per cent, equal to about $1.8 billion in taxes.

The Truman budget as submitted to Congress calls for slightly less than $80 billion in new spending next year. Expected revenue is $69 billion. The Truman proposals will be riddled by the appropriation committees in an effort to slash them by an aggregate of at least $15 billion. The heaviest slashes will be in civilian government and foreign aid, with the Armed Services coming in third place.

Eisenhower will submit new budget proposals which will reduce proposed spending to approximately the sum of anticipated revenues. Still further proposed reductions are expected as the functions and agencies of government are surveyed, and department heads have an opportunity to remove duplication, waste and confusion. Whole divisions and units in government are in prospect of being wiped out as unnecessary, and duplication of work being done by other agencies.

Heavy reductions are in store in foreign aid, civilian help and military spending and upkeep in Europe. Senator Johnston (D., S. C.) described shocking conditions of waste, duplication and luxury living after a personal survey in Europe. Majority leaders in Congress are convinced aid to Europe has been used as an instrument in power politics, and in financing "social gains," as well as military needs, in countries receiving it.

The extent to which military spending will be cut next year is contingent on surveys that are yet to be made by spending committees. The advice of

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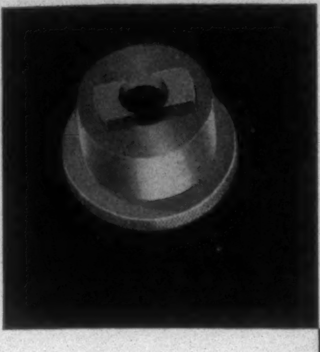

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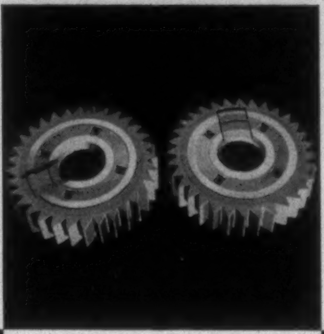

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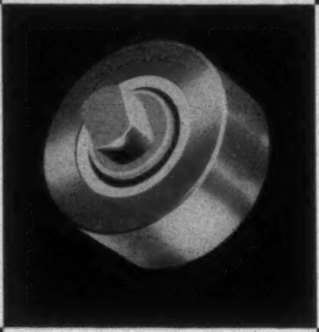

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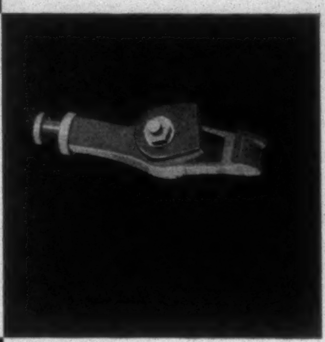

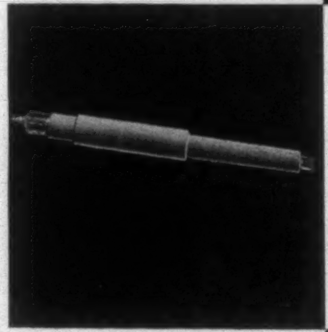

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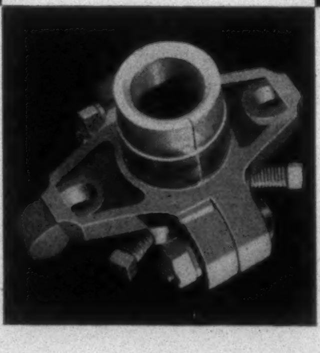

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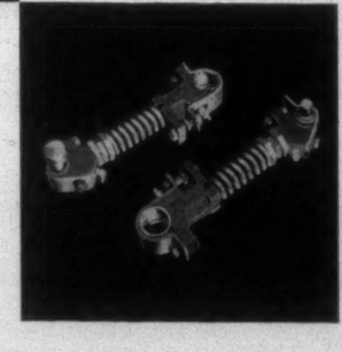

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Eisenhower will loom large in the action of the committees. House leaders say that so long as the Communist threat exists, military costs must remain high. The hope is that sizable savings can be made through reorganization, and in better methods in handling arms production.

New Defense Secretary Wilson has indicated he will not confine his efforts to improving methods in arms production and standardizing military equipment. His economy drive is being pointed at everything in the military establishment. He said he is as interested in removing the waste in luxury clubs and cocktail lounges of officers abroad as in standardizing costs of building war vessels, airplanes and tanks.

Eisenhower and Taft, as majority leader, have reached a full agreement on legislative objectives and aims of the Administration. They are in accord on a pattern for taxes, spending and foreign aid. Eisenhower will work through the designated leaders in Congress, and have their support in government reorganization. He does not intend to try to dictate to Congress, or to be its "leader," or to put through a "personal" program.

Truman's final message to Congress was interpreted as a blueprint on how to snipe at the new Administration, and to chart a course for his own party. It has become clear that Truman adherents intend to attack the new Administration all along the line.

Eisenhower leaders brushed aside most of the offers of Truman officials to "co-operate" in turning over government agencies. They found the offers coupled with the implication that "everything is all right," and the "mess in government" would be glossed over and hidden. Eisenhower is set to sweep out the whole Truman "mess," with all of its confusion and disorganization.

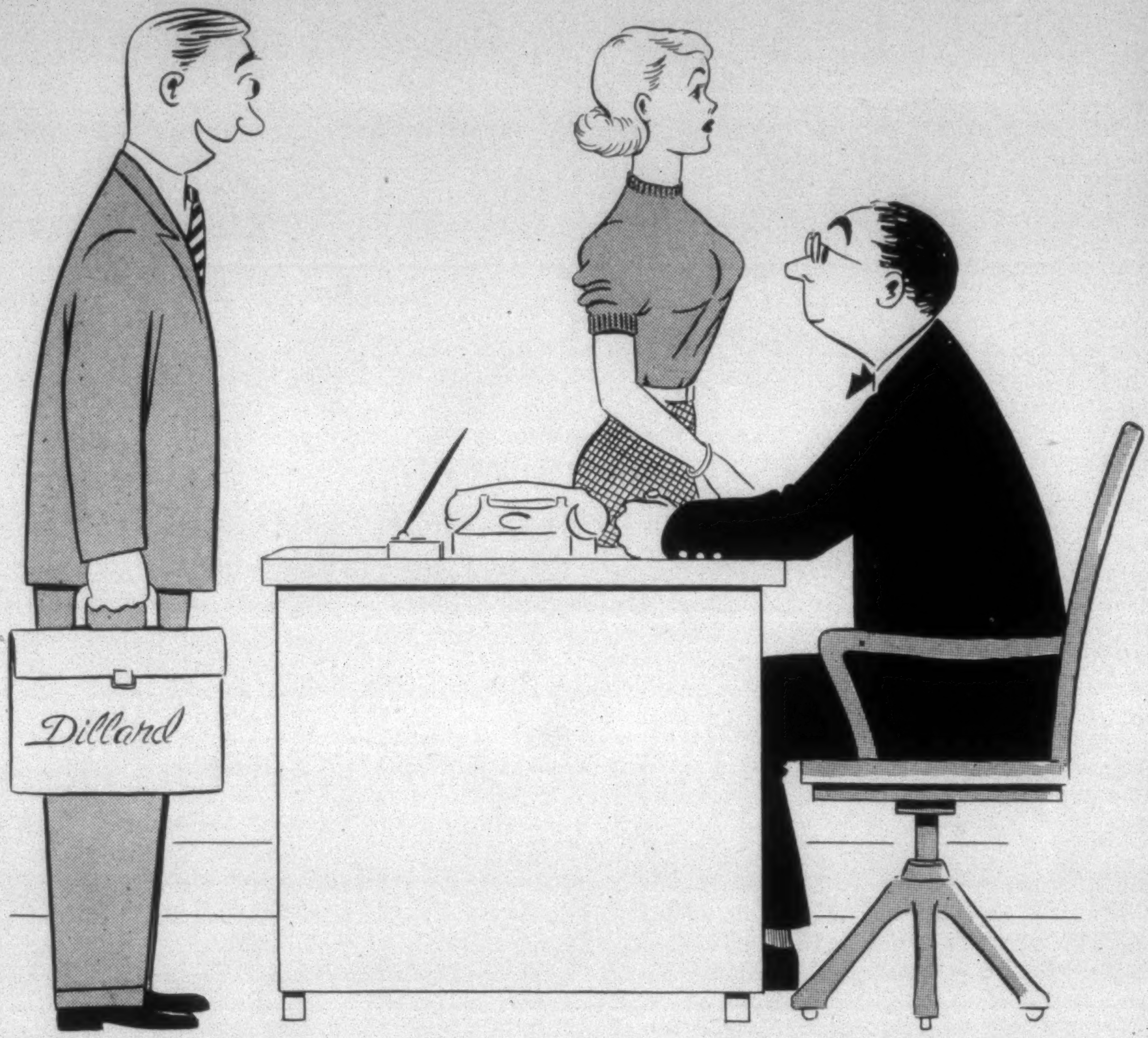
Senator Russell opened attack on the proposal to change the rules of the Senate by implying that C.I.O. President Walter Reuther was behind it. Reuther has been the most vociferous proponent of rules change. Russell made clear the action of the A.D.A. crowd in trying to drive Southern states from the Chicago convention, would come up for full discussion. Even the radical Democrats recognize that a party split seems inevitable.

Basic aim of the proposal to change the rules, in Russell's view, was to bring on a filibuster and indefinitely delay action on organization. The delay would be used for trading purposes on committee assignments, and to try to deprive conservative Democrats of some of their seniority status. Another intent was to compel the G.O.P. leadership to accept New Deal radicals as the representative Democratic faction in the Senate.

Top leaders in the Democratic National Committee refused to sanction a battle over Senate rules, or seek to limit debate. The initial proposal had the support of only 14 New Deal Democrats and four New Deal Republican senators, and one independent. This was one-fifth of the Senate membership. Debate can be limited under the rules by the votes of two-thirds of the Senate membership.

Dewey and Lodge forces failed in a move to push aside Taft from a position of leadership in the Senate. Coonservative Democrats made clear they would co-operate only with Taft as majority leader. They had found the F.E.P.C. and Truman "civil rights" proposals had a high place on the Dewey-Lodge agenda for early legislative action, and that a rules change was pointed to passage of these proposals.

The McCarran Internal Security Sub-committee, engaged in uncovering Communists in government and labor unions, is coming to the end of its career. New Deal-leaning Senator Langer (R., N. D.) became chairman of the Judiciary



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Committee by seniority, and indicated his opposition to continuing the inquiry. Senators Ferguson (R., Mich.) and Jenner (R., Ind.) asked to withdraw from the committee. This action left a heavy majority of liberal senators as members, who opposed continuing the inquiry.

Work of ferreting out the Communists in government will be taken up where McCarran leaves off by the Senate Committee on Government Operations. The committee is headed by hard-hitting Joe McCarthy (R., Wis.) Other Republicans on the committee are Mundt (S. D.), Smith (Me.), Schoeppel (Kan.), and Dworshak (Ida.) A new Republican senator is to be appointed to the committee in the place held by Vice-President Nixon.

Among its last recommendations, the McCarran Committee is asking for tougher laws against Communists in labor unions. It says some unions are top-heavy with them as leaders, and suggests the unions do some house cleaning of their own. The committee favors laws to bar Communists as union officials, and would allow employers to discharge employees for subversive activity or associations.

The C.I.O. has called on its leaders and members to get into every political campaign that is taking place this year. There will be more than 1,000 state, county and city elections. The instructions are to "participate in every step of this year's elections, from primaries through to the final balloting."

Merger of the A.F.L. and C.I.O. is not under discussion, and is not likely within the foreseeable future. Some talks have taken place as to the spheres of action in which the two groups will co-operate, but with each one retaining its own identity. C.I.O. leaders do not intend to surrender their power as heads of a separate organization.

The year 1952 saw 4,850 strikes by labor unions, to set up the second highest strike record the country has known. There were 35 fewer strikes than in the record year of 1946. A total of 55 million days of work was lost.

More than half of the strikes grew out of disputes revolving around W.S.B., and its powers by executive order. No estimate has been made as to losses sustained in the rearmament program, or of far-flung losses spreading through industry from shortages in basic materials, including steel.

Battle casualties in Korea reached 128,238 on the first day of the new year, and an average of almost 1,000 a week since the war started. Of this number, 22,556 are deaths, 92,933 wounded, and 12,749 missing. Of the missing, 1,393 have been accounted for.

The Chelf Committee of the House is being given a new grant of authority to dig into corruption in the Department of Justice. One of its continuing targets will be efforts of prosecution officials to prevent exposure of Communists in the American section of the U. N.

Tax exemption for political contributions of $500 or $1,000 is being urged by Sinclair Weeks, chairman of the G.O.P. Finance Committee, and new Secretary of Commerce. He says contributions are becoming more scarce, and harder to get, while the costs of campaigns is increasing. "We have to have government, so we have to have elections, and that means money," he said in explanation.

Any major legislation projected in Congress by Eisenhower, said Senator Mundt (R., S. D.) must depend on the support of conservative Democrats. He said any measures implying retention of Truman proposals "will have tough sledding."

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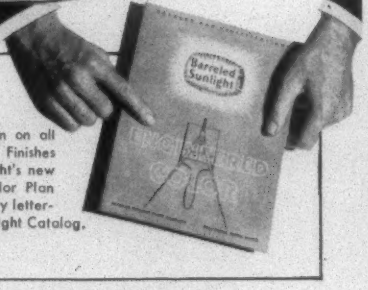

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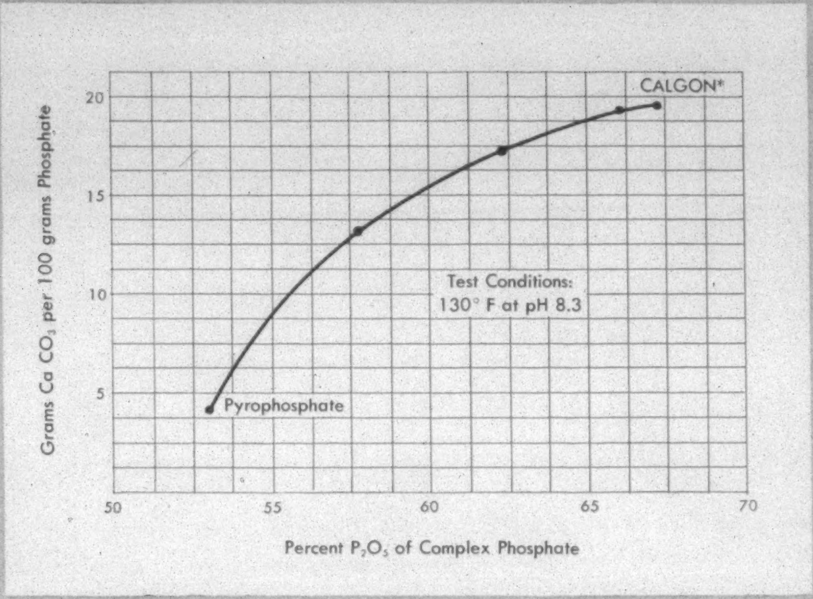

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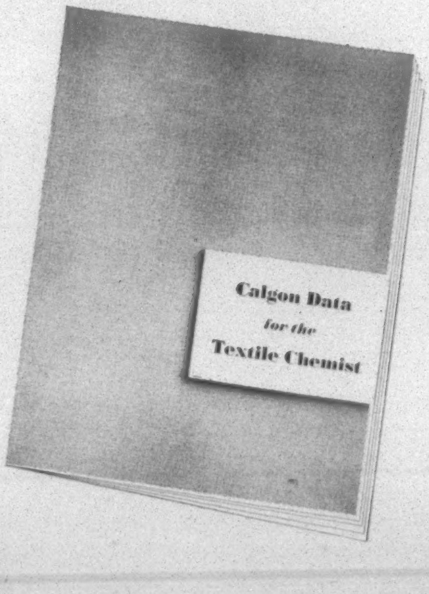

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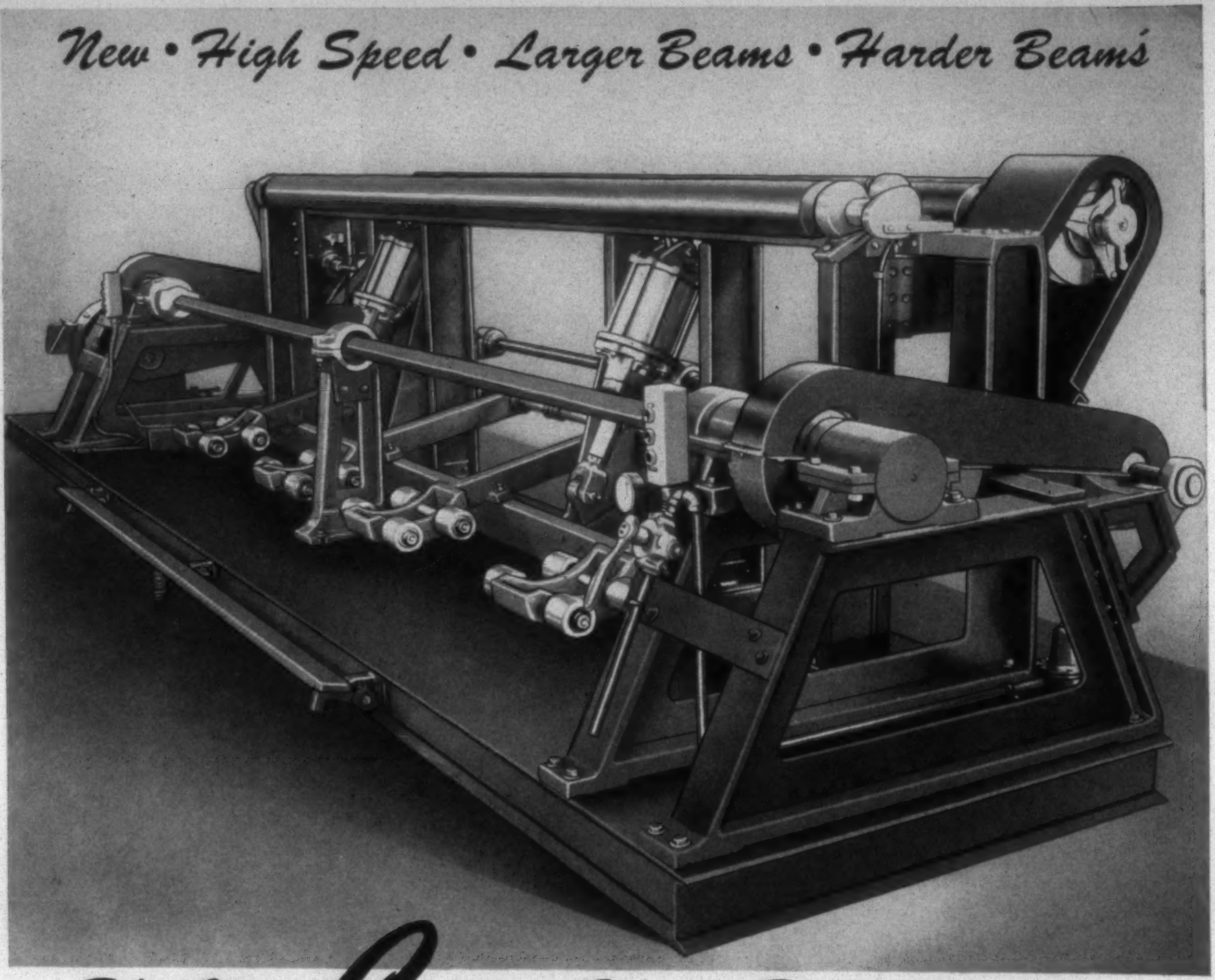
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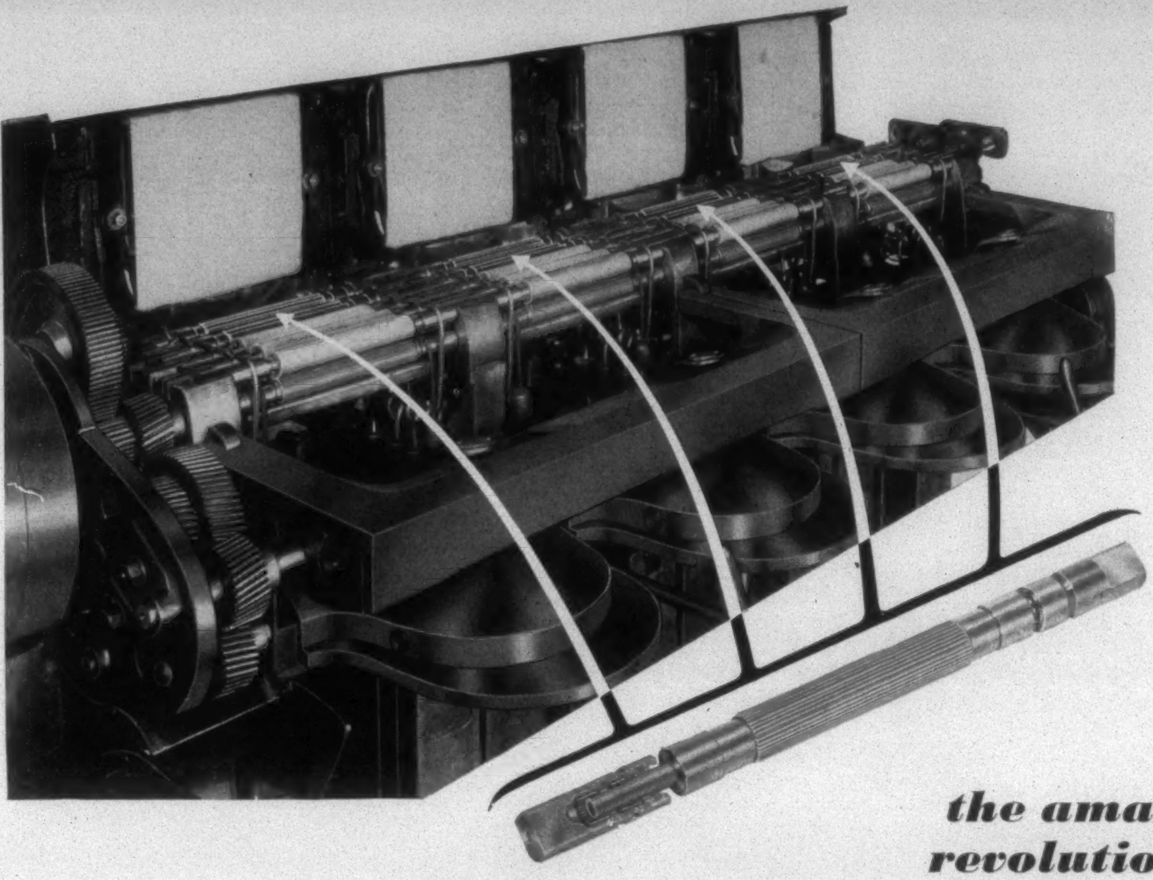

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Thanks to a new synthetic rubber blend containing the amazing ingredient, Ibrocol, Dayton Rubber research has been able to develop an entirely new and different Dayco Cot—EW-465—that successfully combats eyebrowing. Actual mill tests run on many frames prove this, and also that it drafts better yarn, requires fewer cleanings of the clearer boards, and runs longer between buffings than any other cot.

The addition of Ibrocol is the chief reason for this remarkable performance. Its chemical and mechanical action gives the cot a surface that maintains just the right coefficient of friction to remove only the short staple fibers and transfer them well back under the clearer board. Long staple fibers that could build up into eyebrows are left in the yarn. Hence there is less waste as well as less eyebrowing.

There's another big advantage too. The Ibrocol in the new Dayco Cot retards slicking and glazing. Thus the surface retains its coefficient of friction longer than any other synthetic cot. This means fewer buffings, greater savings.

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Whether you want to overcome eyebrowing or any other cot problem, you'll find that Dayco Cots are the right answer to help you secure the highest quality production at the lowest possible cost. For the whole story, get in touch with your Dayco Representative today.

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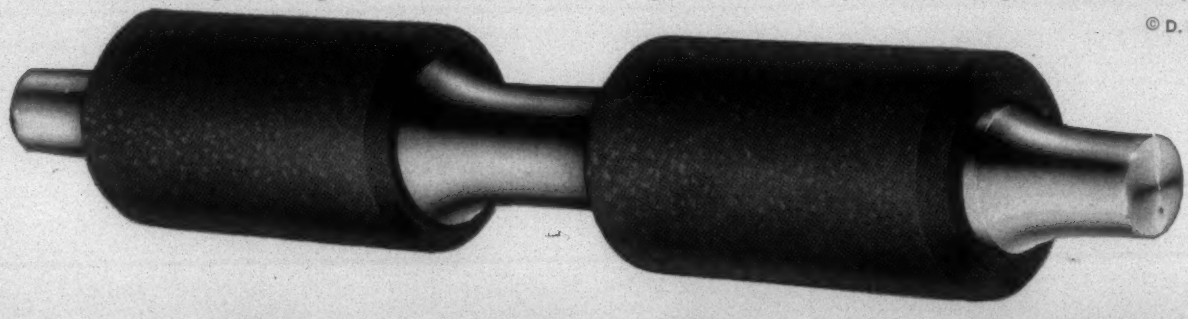

According to actual mill tests, this new Dayco Cot with IBROCOL successfully combats eyebrowing, drafts better yarn, and runs longer between buffings.

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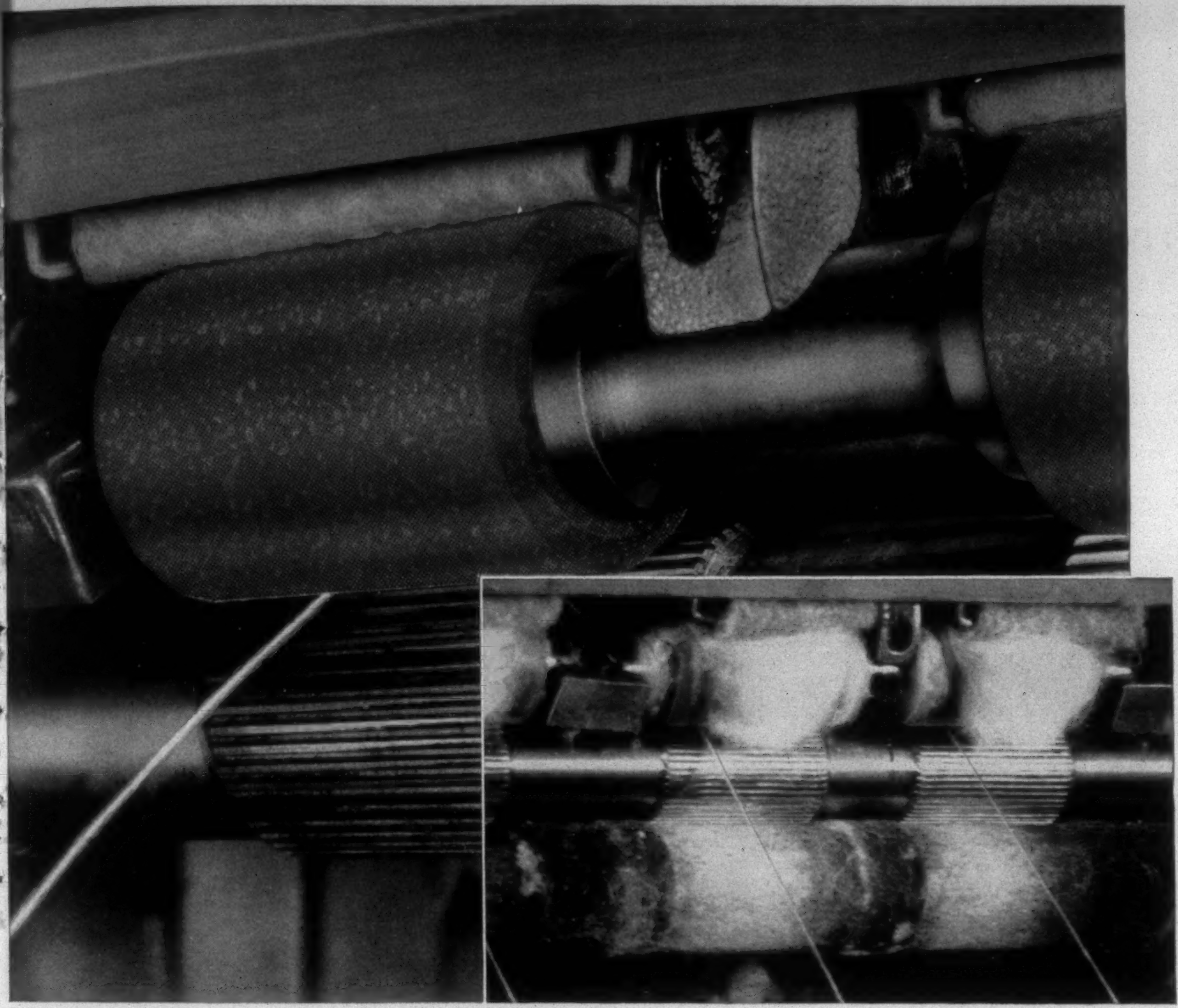

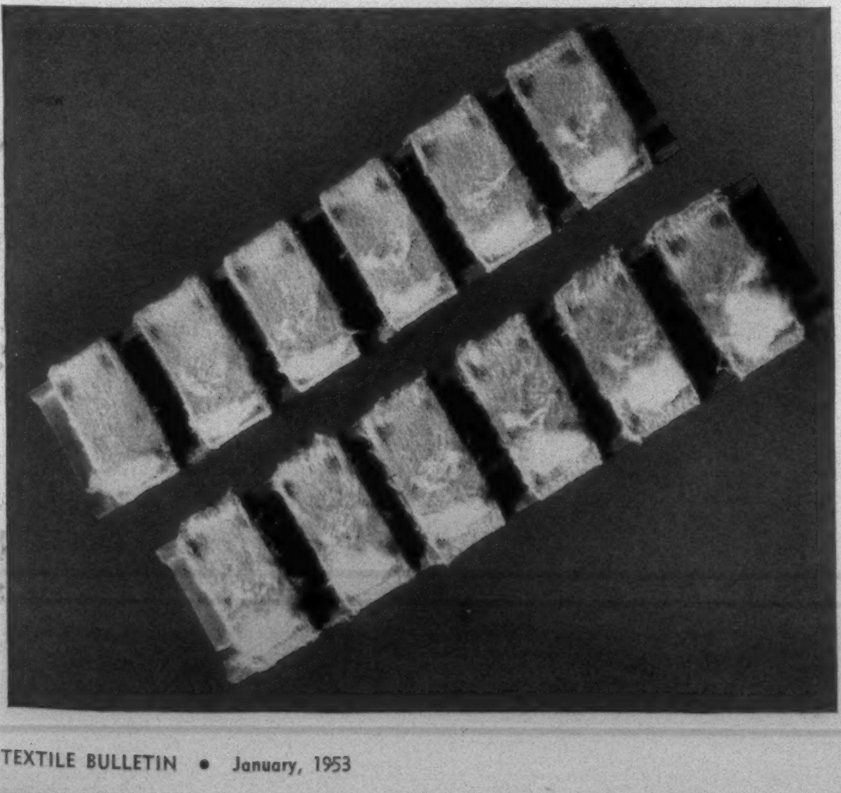

Compare the non-eyebrowing performance of these new EW-465 Dayco Cots shown above in the large illustration, with the condition of another make, shown in the inset. You immediately see why mills who have tried the new Dayco Cots are so enthusiastic. An accurate check in a great many mills over a period up to one year showed that the new Dayco EW-465 Cot did not eyebrow while other cots did.

◀

The clearer board on the top came from a stand of new EW-465 Dayco Cots. These cots were run on the frame exactly the same length of time as the bottom clearer board taken from an adjacent stand of different make cots. Note the difference in the clearer waste. This is because the Dayco's remove only short staple fibres, packing them well back under the clearer board away from possible pickup by the end.

textile bulletin

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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving branches of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are their own and not necessarily those of the editors and publishers. A companion monthly journal, THE KNITTER, is devoted to the interests of the knitgoods industry.

Vol. 79 **January 1953** **No. 1**

As this issue went to press, the condition of David Clark, editor of TEXTILE BULLETIN and president of Clark Publishing Co., continues to be serious. Mr. Clark suffered a heart attack Jan. 3 and has been a patient at Memorial Hospital, Charlotte, since that time. A list of the names of persons who have inquired about his condition is being maintained, and will be shown to him for his appreciation when his improvement warrants it.

Bob Stevens, Army Secretary

Aside from the general feeling of relief and confidence experienced by the nation's business community as a new President and National Administration go to work in Washington, the textile industry can take pride in the fact that President Eisenhower has selected one of its top executives—Robert T. Stevens—as Secretary of the Army. Mr. Stevens, who resigned as chairman of the board of directors of J. P. Stevens & Co. in order to accept the Army secretaryship, is obviously well qualified for this important government position because of his widespread business experience and his tour of duty as a Quartermaster Corps colonel during World War II.

We also learned, from the press association story of Mr. Stevens' appointment, what his middle initial stands for. In the textile industry it has always been Robert *T.* Stevens; we now know that it is Robert *Ten Broeck* Stevens. "T." or "Ten Broeck," the Army now has a first class boss.

Union Representation Votes

The respective textile unions of the C.I.O. and A.F.L. continue to do battle with each other.

At Greensboro, N. C., workers at the Proximity Plant of Cone Mills Corp. voted 566 to 539 in favor of the United Textile Workers of America (A.F.L.) in a runoff of an indecisive November representation election. The 539 voted for "no union;" 13 votes were challenged and six were declared void by the National Labor Relations Board. The narrow margin by which the U.T.W.A. won was attributed by Lewis Conn, acting state director of the A.F.L. union (himself an ex-C.I.O. man), to the "active 'no-union' campaign conducted by the T.W.U.A." The Textile Workers Union of America (C.I.O.) was eliminated in a three-way election at the plant in December. In other words, Conn is saying that the T.W.U.A., having lost out altogether, did everything it could to see that the Proximity workers would not affiliate themselves with the A.F.L. union.

Another recent representation vote, at Sterling Cotton Mills, Franklinton, N. C., found the U.T.W.A. (A.F.L.) winning over the T.W.U.A. (C.I.O.) 120 to 20; 32 workers voted "no union" and one vote was voided.

The U.T.W.A. came out on the short end at Gastonia (N. C.) Weaving Co., where 83 workers voted against the union, 76 voted for it and five votes were spoiled or challenged. It wasn't even close at Marshville, N. C., where 108 workers at Union Asbestos & Rubber Co. voted against the U.T.W.A., 23 for it, 30 ballots were challenged.

The C.I.O. found out that it had not gained the confidence of workers at Hart Cotton Mills, Tarboro, N. C., when 357 voted against the T.W.U.A. and 236 voted for it.

A Determined Bunch

Those who might have said facetiously that the shock of a "no-Deal" Administration being elected by the citizens of the United States literally scared Philip Murray and William Green of the C.I.O. and A.F.L. to death, needn't think that the professional labor element in this country isn't just as aggressive, determined and selfish a bunch as ever.

One of the aforementioned professional labor union men is Representative George Milton Rhodes of the 13th Congressional District of Pennsylvania. On the first Saturday of the new year Mr. Rhodes dropped H. R. 574 into the House of Representatives legislative hopper, describing it as "a bill to rehabilitate and stabilize labor conditions in the textile industry of the United States; to prevent unemployment, to remove obstructions to interstate commerce, to regulate wages and hours in said industry; to protect and foster the defense effort; to safeguard and promote the general welfare; and for other purposes."

At the risk of being accused of unfairness by summarizing the principal parts of Mr. Rhodes' bill, we shall quote from it briefly: "The Congress hereby finds that a state of chronic and increasing unemployment presently exists in the textile industry; . . . a state of instability in the production and manufacture of textile products presently exists whereunder a great number of plants located particularly in the Northeastern section of the country have entirely ceased operations and a great many others presently threaten to do so. . . . The conditions specified above are caused primarily by two factors: first, diversion of production of textile products from certain states to other states and from

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variation...

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it

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When color uniformity is a "must," leading dyers and finishers simplify their problems by utilizing LEVELENE . . . A.A.P.'s 4-way dyehouse assistant. Performance-proved as a Leveling Agent — Penetrant — Dispersant — and active Stripping Catalyzer — LEVELENE may be used for preparing, dyeing or finishing.

You will find LEVELENE particularly well suited in minute quantities as a vat dyeing retardant—in the pigment pad or reduced methods—as well as for vat stripping.

For full details and data tailored to your individual requirements, consult our nearest branch. A.A.P. technicians will be happy to arrange a demonstration at your earliest convenience.

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In every branch of the Textile Industry

THERE'S A NEED FOR

WHITIN-CLIMAX*

BALL BEARING TOP ROLLS

Enthusiastic testimonials from leading mills in all branches of the textile industry prove that Whitin-Climax ball bearing top rolls pay quick dividends by producing better yarn at lower cost.

Whitin has adopted these rolls as standard for cotton roving and spinning, wool and worsted spinning and American System equipment, when anti-friction rolls are specified.

* *Manufactured by*
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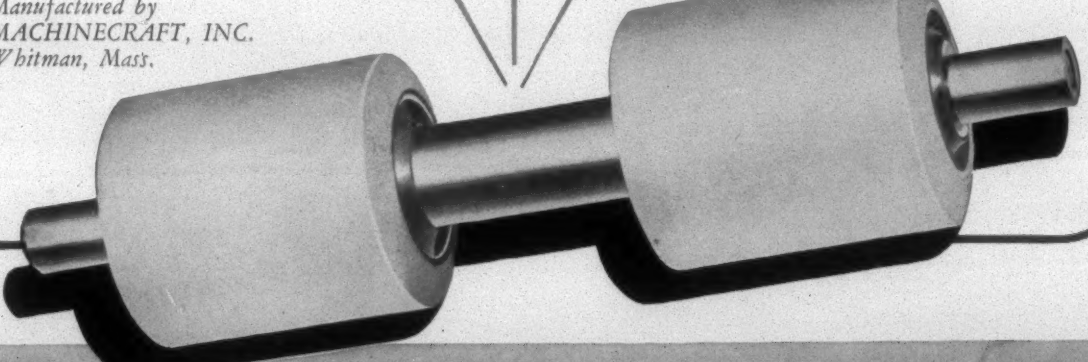

FEATURES:

1. Reduction in oiling costs
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6. Improved yarn quality
7. Improvement of fiber control in drafting zone
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9. Eliminates lapping of lint on journals
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certain mills to other mills by reason of unfair competition in wage rates and other conditions of employment and, second, vast increases in productivity due to the introduction and use of technological improvements and increased efficiency and productivity on the part of the individual textile worker without any corresponding reduction in number of hours worked or increase in rates paid. . . . In each mill, plant and manufacturing establishment in the textile industry maximum hours of employment shall be 35 hours per workweek and there shall be no more than two work shifts of 35 hours each. . . ."

Mr. Rhodes' bill then goes on to define the textile industry as including all possible categories of textile products.

Just who is this George Milton Rhodes, who on the one hand talks about rehabilitating and stabilizing labor conditions in the textile industry, protecting and fostering the defense effort, and promoting the general welfare, and on the other hand talks about restricting textile plant operations to 70 hours per week? The *Congressional Directory* lists Mr. Rhodes as a Democrat from Reading, Pa.; "worked as a printer, business manager, labor editor and labor representative."

Mr. Rhodes' bill has been referred to the House Committee on Education and Labor, but before he starts pulling strings in an effort to get H. R. 574 reported out of that committee, we would suggest that he find out a little more about the textile industry.

We also would ask him to read a recent address by Harold J. Walter, president of Bachmann-Uxbridge Worsted Corp. of Uxbridge, Mass., to a group of wool textile overseers. Mr. Walter stated "Four woolen looms run in the North at $2 per hour would equal 50 cents a loom per hour for pay. We find that a realistic load on the same type of work is on eight looms in the South, at $1.50 an hour. That makes it 19 cents a loom hour in the South against 50 cents in the North or a difference of 31 cents a loom hour. Now, if our Northern workers took eight looms and still received their $2, the difference comes down to a matter of only six cents per loom hour versus 31 cents; or, in other words, given the same realistic work loads the difference in costs is tremendously reduced. What I am trying to say is this: maybe we can pay somewhat higher rates in New England than they do down South, but the one idea we must sell to our workers is the fact that they must first do as much as other people are willing to do in other parts of the country."

Cone Mills In *Fortune*

It isn't necessary to tell anyone in the textile industry about Cone Mills Corp. Among textile men it is known and respected. Nevertheless, we were pleased to note that recognition of this fine organization was given in an article entitled "Cone Mills: Old King Denim," published in the January 1953 issue of *Fortune* magazine.

"Character" is a word which may soon again mean something in this country, and the article closes on a note about the character of Cone Mills: "The firmest foundation for Cone's introduction to the public is the company's reputation in its own field, which far exceeds ordinary good repute."

Cone Mills, if a person, would be described by the term "good citizen."

TEXTILE INDUSTRY SCHEDULE

— 1953 —

Jan. 26-27—Annual meeting, **NATIONAL COTTON COUNCIL OF AMERICA**, Dallas, Tex.

Jan. 26-30—**INTERNATIONAL HEATING AND VENTILATING EXPOSITION**, International Amphitheatre, Chicago, Ill.

Feb. 3—**AMERICAN ASSOCIATION OF TEXTILE TECHNOLOGISTS** Symposium, Hotel Statler, New York City.

Feb. 3—Annual meeting, **NATIONAL ASSOCIATION OF FINISHERS OF TEXTILE FABRICS**, Hotel Statler, New York City.

Feb. 9-11—**A.M.A. CONFERENCE ON MARKETING**, Hotel Statler, New York City.

Feb. 16-18—**A.M.A. CONFERENCE ON PERSONNEL**, Palmer House, Chicago, Ill.

Feb. 18-20—**COTTON RESEARCH CLINIC**, General Oglethorpe Hotel, Savannah, Ga.

March 2-6—**A.S.T.M. SPRING MEETING AND COMMITTEE WEEK**, Detroit, Mich.

March 26-28—Annual convention, **AMERICAN COTTON MANUFACTURERS INSTITUTE**, Palm Beach Biltmore Hotel, Palm Beach, Fla.

April 3—**TEXTILE QUALITY CONTROL ASSOCIATION**, Clemson, S. C.

April 8-10—**A.M.A. CONFERENCE ON MANUFACTURING**, Hotel Statler, New York City.

April 9-11—Annual convention, **ALABAMA COTTON MANUFACTURERS ASSOCIATION**, Buena Vista Hotel, Biloxi, Miss.

April 11—**PIEDMONT SECTION, A.A.T.C.C.**, Hotel Robert E. Lee, Winston-Salem, N. C.

April 20-23—**A.M.A. PACKAGING CONFERENCE AND EXPOSITION**, Navy Pier, Chicago, Ill.

April 22-23—Spring meeting, **THE FIBER SOCIETY**, New Orleans, La.

April 23-25—Annual convention, **COTTON MANUFACTURERS ASSOCIATION OF GEORGIA**, Boca Raton (Fla.) Hotel and Club.

May 7-9—Annual convention, **PHI PSI TEXTILE FRATERNITY**, Penn-Sheraton Hotel, Philadelphia, Pa.

May 11-16—**NATIONAL COTTON WEEK.**

May 13-15—**NORTH CAROLINA STATEWIDE INDUSTRIAL SAFETY CONFERENCE**, Robert E. Lee Hotel, Winston-Salem.

May 14-16—Annual outing, **CAROLINA YARN ASSOCIATION**, The Carolina Pinehurst, N. C.

May 18-20—**A.M.A. CONFERENCE ON INSURANCE**, Hotel Statler, New York City.

May 18-22—**NATIONAL MATERIALS HANDLING EXPOSITION**, Convention Hall, Philadelphia, Pa.

May 25-30—Annual conference, **TEXTILE INSTITUTE**, Llandudno, North Wales, England.

May 27-29—**TEXTILE DIVISION, AMERICAN SOCIETY FOR QUALITY CONTROL**, Convention Hall, Philadelphia, Pa.

May 28-30—Annual convention, **SOUTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION**, Sea Island, Ga.

June 12-13—**PIEDMONT SECTION, A.A.T.C.C.**, Mayview Manor, Blowing Rock, N. C.

June 17-19—**AMERICAN MANAGEMENT ASSOCIATION CONFERENCE ON GENERAL MANAGEMENT**, Hotel Statler, New York City.

June 18-20—Annual convention, **SOUTHERN TEXTILE ASSOCIATION**, Mayview Manor, Blowing Rock, N. C.

June 29-July 3—Annual meeting, **AMERICAN SOCIETY FOR TESTING MATERIALS**, Chalfonte-Haddon Hall, Atlantic City, N. J.

July 27-31—**INTERNATIONAL EXPOSITION OF FABRICS, FIBERS, FINISHES AND YARNS**, Waldorf-Astoria Hotel, New York City.

Sept. 10-11—Fall meeting, **THE FIBER SOCIETY**, Lowell, Mass.

Sept. 12—**PIEDMONT SECTION, A.A.T.C.C.**, Hotel Charlotte, Charlotte, N. C.

Sept. 17-19—National convention, **AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS**, Conrad Hilton Hotel, Chicago, Ill.

October—**TEXTILE MACHINERY AND ACCESSORIES EXHIBITION**, Belle Vue, Manchester, England.

Oct. 14-24—**INTERNATIONAL EXHIBITION OF TEXTILE MACHINERY AND ACCESSORIES**, Belle Vue, Manchester, England.

Oct. 15-16—Annual meeting, **NORTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION**, The Carolina, Pinehurst, N. C.

Oct. 29-30—Annual convention, **CARDED YARN ASSOCIATION**, Grove Park Inn, Asheville, N. C.

— 1954 —

April 22-24—Annual convention, **AMERICAN COTTON MANUFACTURERS INSTITUTE**, Jung Hotel, New Orleans, La.

April 26-May 1—**AMERICAN TEXTILE MACHINERY EXHIBITION**, Atlantic City (N. J.) Auditorium.

June 10-12—Annual convention, **S.T.A.**, Ocean Forest Hotel, Myrtle Beach, S. C.

National convention, **A.A.T.C.C.**, **Atlanta, Ga.** (Dates not yet selected.)

— 1955 —

Sept. 21-23—National convention, **A.A.T.C.C.**, Chalfonte-Haddon Hall, Atlantic City, N. J.

"she might have been my kid..."

"There was no time to stop, see? She comes running out from behind this parked car right under my wheels. Her hair is in pigtails, and with the sun shining on it, she might have been *my* kid. We got her to the hospital. It took 3 pints of blood to bring her around. All I have to do is remember the sound of those screaming tires—and I know why *I'm* giving blood."

Yes, all kinds of people give blood—truck drivers, office workers, salesmen. And—for all kinds of reasons. But whatever *your* reason, this you can be sure of: Whether your blood goes to a local hospital, a combat area or for Civil Defense needs—this priceless, painless gift will some day save an American life!

Business Executives!

✓Check These Questions!

If you can answer "yes" to most of them, you—and your company—are doing a needed job for the National Blood Program.

- ☐ Have you given your employees time off to make blood donations?
- ☐ Has your company given any recognition to donors?
- ☐ Do you have a Blood Donor Honor Roll in your company?
- ☐ Have you arranged to have a Bloodmobile make regular visits?
- ☐ Has your management endorsed the local Blood Donor Program?
- ☐ Have you informed your employees of your company's plan of co-operation?
- ☐ Was this information given through Plant Bulletin or House Magazine?
- ☐ Have you conducted a Donor Pledge Campaign in your company?
- ☐ Have you set up a list of volunteers so that efficient plans can be made for scheduling donors?

Remember, as long as a *single* pint of blood may mean the difference between life and death for *any* American . . . the need for blood is *urgent!*

Give Blood Now

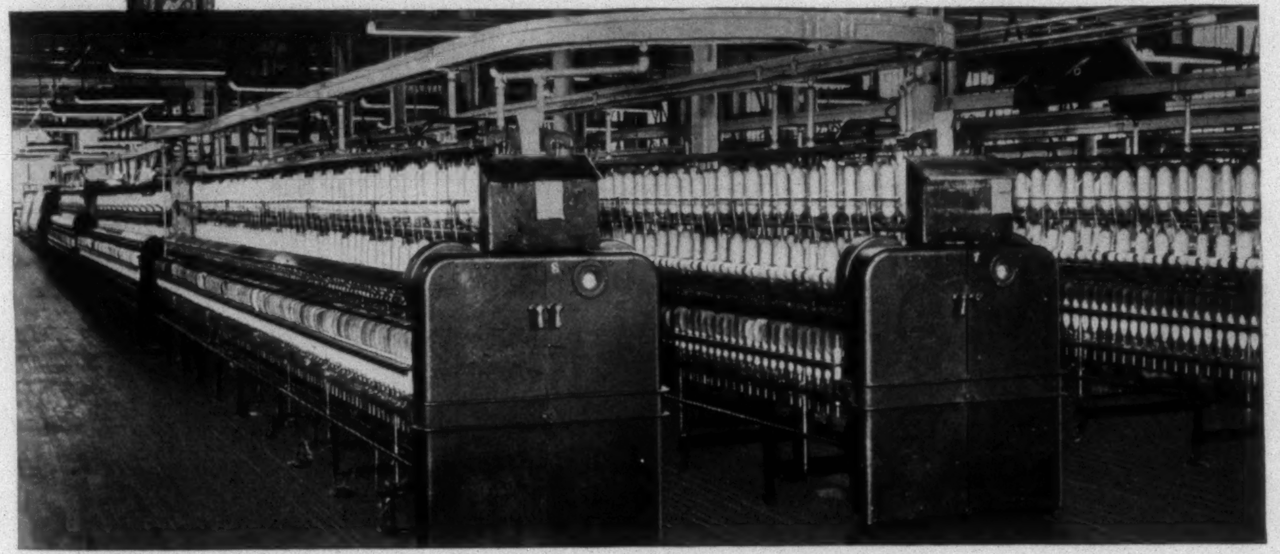
CALL YOUR RED CROSS TODAY!

NATIONAL BLOOD PROGRAM

A PUBLIC SERVICE PROJECT · THE ADVERTISING COUNCIL

"We CUT MAINTENANCE COSTS by 13%"

. . . says Norman Garlington of Brookside Mills, Knoxville, Tenn.



To turn out 15 million yards of cotton and blended fabrics yearly, Brookside Mills keeps its 65,000 spindles and 1046 looms working smoothly with Sinclair Textile Lubricants.

Two years ago, General Superintendent Norman Garlington called in a Sinclair Lubrication Engineer and asked him to make recommendations for better and more economical lubrication.

After a thorough study of the mill, the Sinclair Engineer set up a comprehensive and simplified lubrication procedure and recommended specially developed Sinclair Textile Lubricants.

Since the new procedure was adopted, Mr. Garlington reports that, "Sinclair Textile Lubricants have cut our maintenance costs by 13%. In addition, we have *reduced* inventory . . . *saved* storage space . . . and *cut* misapplication."

About important extra services, Mr. Garlington writes, "The Sinclair Research Laboratory has been consulted on several tough problems and results were quickly obtained."

To get in touch with a Sinclair Lubrication Engineer, call your local Sinclair Representative or write to Sinclair Refining Company, 600 Fifth Avenue, New York 20, N. Y.

SINCLAIR TEXTILE LUBRICANTS

Let us meet our duties and responsibilities through all the year with an open, willing heart; and let us give only our best, as we understand our best to be.

Harry C. Coley
President

HOWARD BROTHERS
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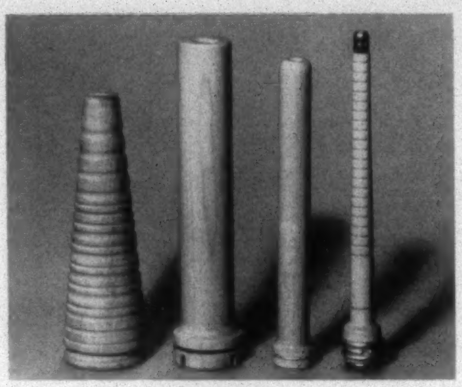
BUSINESS IS GOOD . . .

Why not place your orders NOW?

We will hold in stock until required shipping date.

Our suppliers are outstanding, progressive manufacturers.



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Contact us for
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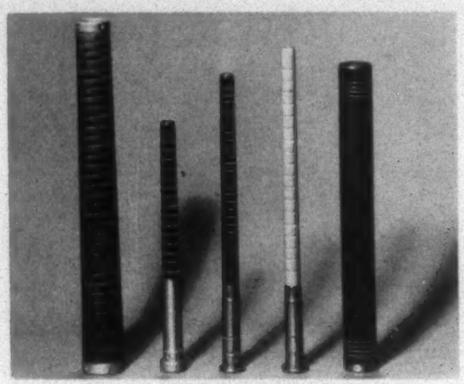

Paper Tubes & Quills
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We can furnish any
type or size required.

SHUTTLES:

Watson-Williams shuttles are quality shuttles. Tell us your shuttle problems.

SHUTTLE FUR:

For better weaving results use Taylor Fur. Call us now.

Consult us for Ball Bearing Rolls for Spinning and Roving; Spools; Humidifiers; Dye Tubes; Beams and the Charlotte Colloid Mill.

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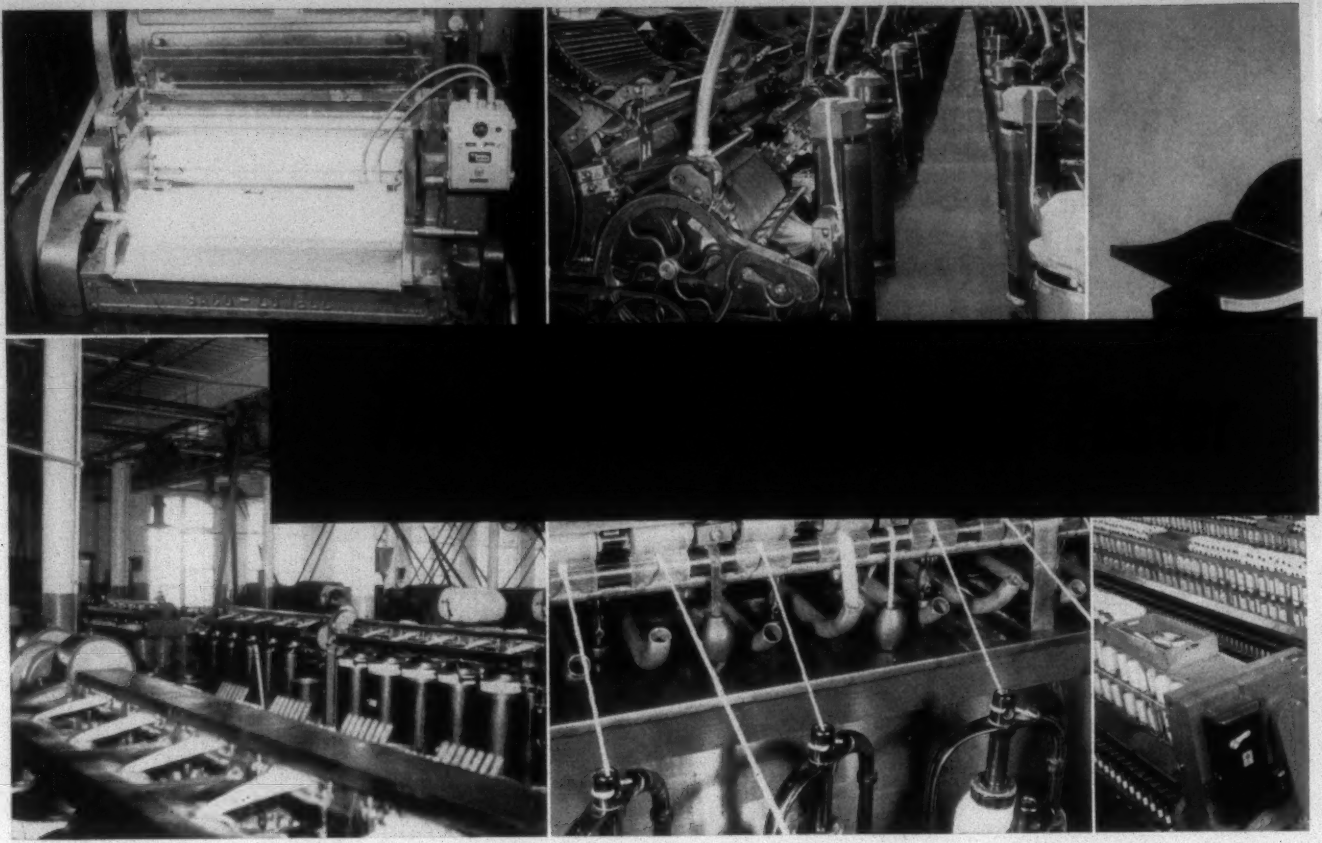

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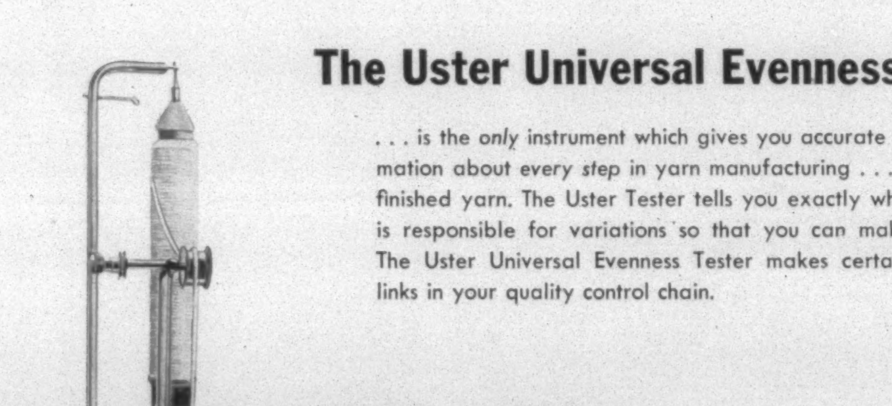
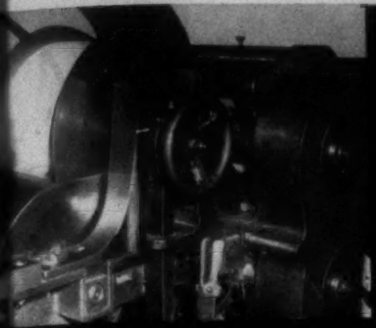
The Uster Universal Evenness Tester

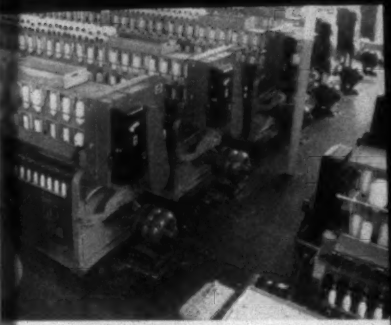
. . . is the *only* instrument which gives you accurate and dependable information about *every step* in yarn manufacturing . . . from picker lap to the finished yarn. The Uster Tester tells you exactly which processing machine is responsible for variations so that you can make corrections at once. The Uster Universal Evenness Tester makes certain there are no weak links in your quality control chain.



The Standard by which Yarns are Made, Bought and Sold



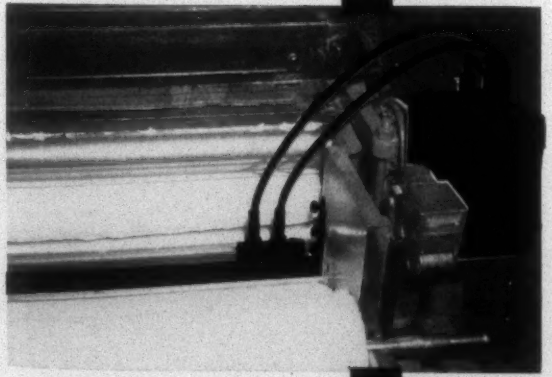
From Picker Lap To the Finished Yarn



The Uster Universal Evenness Tester measures and records variations in picker laps, card sliver, sliver laps, ribbon laps, drawing sliver, roving, spun yarn or filament. NO OTHER INSTRUMENT CAN DO THIS.

Uster Picker Lap Vari-Meter

For the first time in textile history you can control picker performance by testing laps . . . inch by inch . . . in the mill itself. The Lap Vari-Meter is mounted directly on the picker and can be connected to your Uster Evenness Tester in the picker room or remotely to your Uster Evenness Tester in the overseer's office or laboratory. A Lap Vari-Meter mounted on each picker, and connected to a single Uster Tester, gives speedy overall picker control.



Lap Vari-Meter

Uster Sliver-Lap Adapter

This Adapter makes it possible for the first time to test inch by inch variations of ribbon and sliver laps. Better control of lap machines and combers will be a natural result.

. . . and ROTAFIL, another important addition, enables the Uster Universal Evenness Tester to accurately test low twist filament yarns.

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Uster Evenness Tester Equipment Today

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THIS STICK CAN TAKE IT!
TOUGH FIBRE

3 TIMES THE WEAR

Super-Stroke Picker Sticks outwear ordinary picker sticks on an average of 3 to 1! That's because the shock-resisting vulcanized fibre insert — bonded under heat and pressure — never separates from the wood! This patented design resists splitting and warping and triples the life of the stick. Available in all styles and sizes. Order today from

NORRIS BROS.
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Super-Stroke
PICKER STICKS

Representatives:
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Morris R. Copeland & Co., Griffin, Ga.

WHAT OTHERS ARE SAYING

A Year Of Change

AS the New Year begins, businessmen are looking to the future, weighing and evaluating the problems, conditions and opportunities which will be met in the months ahead.

Assuredly, it will be a year of change. The recent election—the greatest free election ever held in the history of the world—resulted in a sweeping demand for a new national administration and fundamental revisions in the political, economic and social policies of our government. For the first time in 20 years, there will be a change of the party in power in Washington, bringing a new spirit, fresh leadership, and a basically different attitude toward the problems which, at home and abroad, beset the nation. As one commentator has said. "The overwhelming nature of the Eisenhower victory would seem to place one matter, at least, beyond argument. The voters definitely want things done differently in Washington."

Businessmen are studying the cur-

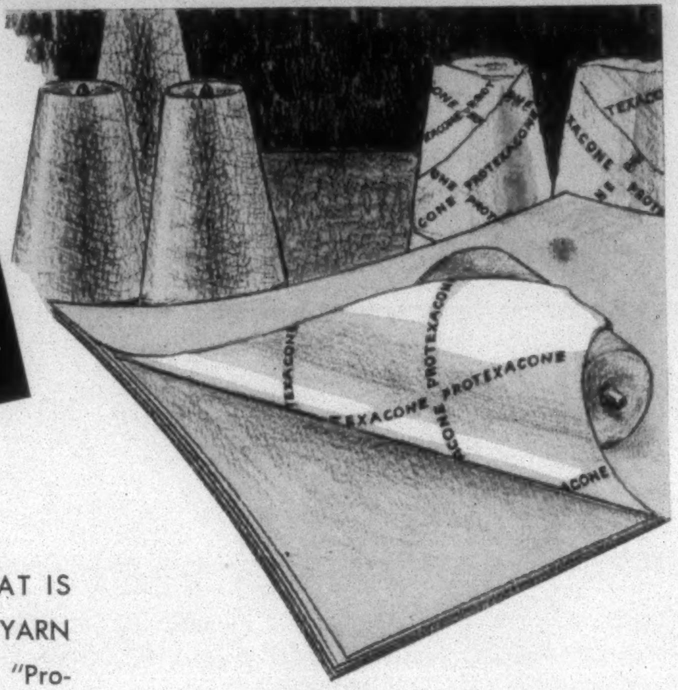
SPARKLING ALICE CORR OF SELMA, ALA., IS THE 1953 MAID OF COTTON by virtue of her victory over 21 other Cotton Belt beauties in the annual contest at Memphis, Tenn., Dec. 30. The radiant brownette, a sophomore at the University of Alabama, is the first Alabama girl ever to be selected to represent the American cotton industry as its fashion and goodwill ambassadress. The new Maid of Cotton is 19 years old. A green-eyed beauty just over five feet seven inches tall, she was Alabama's official state Maid of Cotton in the annual competition. Before attending the university, Alice was a student at Randolph-Macon Woman's College at Lynchburg, Va. The youngest of seven children, Alice is the daughter of Mr. and Mrs. Mark S. Corr of Selma.

PROTECTION

that Pays!

"PROTEXACONE"©

CONE WRAP



AN ECONOMICAL, DURABLE WRAP THAT IS SAVING TIME, LABOR AND MONEY FOR YARN MANUFACTURERS AND THEIR CUSTOMERS. "Protexacone" is scientifically and specifically manufactured for wrapping cones of yarn . . . . incorporating all of the following features —

HIGHLY MOISTURE PROOF . . . insuring that the yarn retains a high percentage of its original moisture content (far longer than an ordinary wrap) . . . thereby greatly increasing its strength.

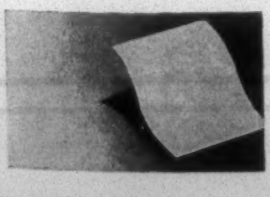
A FINE TEXTURED FLEXIBLE SHEET . . . for easier and faster wrapping of cones . . . saving time in labor and giving a smoother, tighter wrapped cone . . . minimizing the loss of twist and giving smoother machine operation.

LIGHT IN WEIGHT . . . two and one quarter times as many sheets per pound as in a 25-lb. cone wrap . . . reducing tonnage requirements, storage space and reducing shipping charges.

ABRASIVE RESISTANCE . . . that is exceedingly high.

TOUGHNESS . . . with greater strength than ordinary cone wraps in heavier basis weights.

All Size Sheets in Plain White or Colors or Printed in Fast Colors. We will be glad to send you a package of working samples for your own test, on request. Please state sheet size desired.



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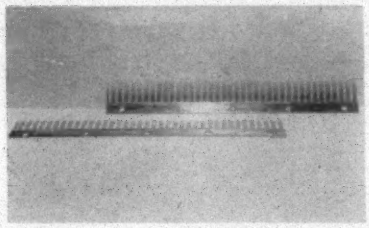
HIGH POINT • CHARLOTTE • GASTONIA • ASHEVILLE • ATLANTA

TALK
ABOUT
SAVINGS!

◆ ◆ ◆

If you have continuous strippers, we can do something about it.



You don't have to throw away your worn out needle bars and buy new ones. No, sir, we can rebuild them and you will have a tough time telling them from new ones.

The proof of the pudding is our customer list of more than 60 mills including some of the largest and best organizations in the South.

A trial set will convince you.

Write us for details and prices.

TEXTILE MILL
SUPPLIERS

P. O. Box 906

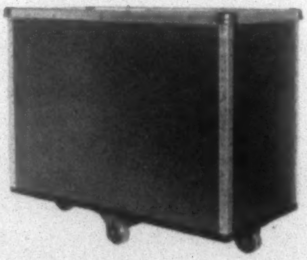
COLUMBUS, GEORGIA

rents and crosscurrents in the economic outlook which the election has set in motion. They recognize they have heavy responsibilities, along with wider opportunities, to serve their nation well in the period ahead.

The country's greatest need is for a binding spirit of unity and harmony in government and between various segments of our economic and political life. Fortunately, such a climate is expected to prevail in Washington with the advent of the new administration, and this should make it possible for business leaders to take a more active part in governmental affairs. The unsound fiscal policies of recent administrations, the hostile attitude in government toward private enterprise, and piling up of regulatory legislation and bureaucratic powers with which to hamper business operations has in past years estranged businessmen from participating in government. The majority vote in the 1952 election was so preponderant that it represented the united voice of Americans in all walks of life and of every economic level for a fuller partnership in government, and businessmen will be encouraged to contribute more of their efforts and talents in governmental administrative or advisory posts. The unity which the nation has achieved will give us tremendously increased power to meet and solve difficult problems in the fateful months and years ahead.

The election was a rebuke to the "tax and spend" policies which were begun as temporary measures two decades ago but have been continued, on a growing scale, through a period of world-wide war, through an extended era of inflationary prosperity, and into another crucial war period. For two decades, businessmen have fought against this dangerous course which has already debased our currency, endangered the free enterprise system, and has squandered to an alarming degree our national strength. It is to be hoped that our financial house will now be placed in better order and that sound and realistic values will be stressed in national fiscal affairs. It will not be easy to correct 20 years of tax abuse and prodigious government spending. Businessmen should maintain a faithful interest in national fiscal policies and must support in every way

EXCEL Keeps Your Production Rolling
24 TRUCKS For The Textile Industry



The Excel
No. 2300 Hamptonite Truck

Made of ¼ inch Hamptonite Fibre with slatted, solid wood, or metal bottom and heavy duty galvanized or Stainless Steel top rails. This truck is securely riveted throughout with solid rivets and casters are *bolted* onto trucks. This No. 2300 has no center band to catch under ring rails.

Also:
No. 100 Loose Doff Box
No. 200 Doff Box Frames
No. 300 Doff Truck
No. 400 Slatted Yarn Truck
No. 500 Metal Yarn Truck
No. 600 Slatted Conditioning Truck
No. 700 Waste Can Truck
No. 800 Platform Truck
No. 900 Metal Conditioning Truck
No. 1000 Fibre Truck
No. 1100 Steel Lap Truck
No. 1200 Utility Fibre Truck
No. 1300 Utility Metal Truck
No. 1400 Comber Lap Truck
No. 1500 Pin Board Truck
No. 1600 Bale Opening Truck
No. 1700 Cone Truck
No. 1800 Beam Truck
No. 1900 Sliver Can Truck
No. 2000 Swing Bed Doff Truck
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Many Other Special Trucks

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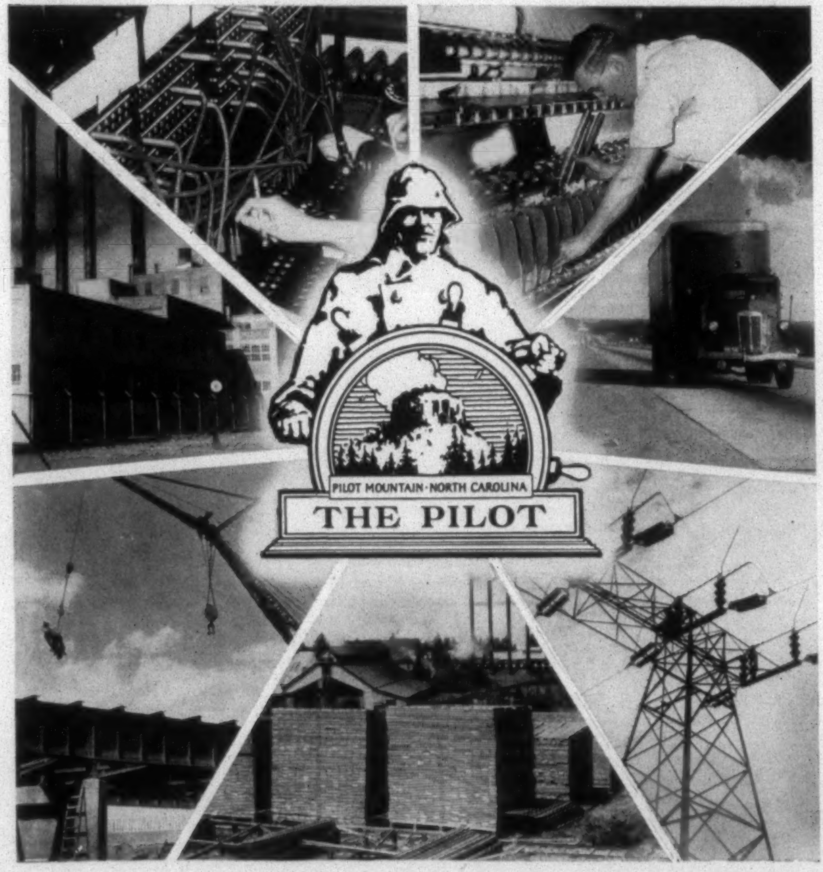
our congressmen and other national leaders as they work to return the nation to a sane economic footing.

As the months go by, we shall probably attain a less regimented economy. If controls are removed from prices, labor and production, businessmen will have the sober responsibility of showing the greatest measure of economic statesmanship and social responsibility in keeping the economy on an orderly and stable basis. It is the duty of those of us who are guardians of the free enterprise system to use our best talents and efforts in keeping that system working on the most beneficial basis possible.

The year ahead will bring a fresh test to business management, a test that would have come regardless of the election result. It will be the test of the competitive market place, brought about by a return of a buyer's market. Selling, which has for too long been a neglected force in our economy, will regain its rightful place of importance as an economic activity. We, as a nation, have reached a new high in productive capacity. A continued favorable business period will depend on our ability to sell the product of our farms, factories and mines. The successful business will be the one which is able effectively to merchandise its products or services, which understands and meets the need of the market and which can supply the consumer with the best product at the lowest cost. This is the greatest challenge of the competitive free enterprise system, and it is a challenge which good businessmen welcome. Those who cannot meet the test of successful selling may find a rocky road in 1953, but those business organizations which have not lost, or can regain, the art of aggressive, intelligent selling, should find the year ahead a good and progressive business period. — *The Wachovia,* Wachovia Bank & Trust Co.



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Cotton Crop Control

THE United States Department of Agriculture seems to be in a jam with its cotton price-and-production-control program. The law requires that the Secretary of Agriculture announce by Oct. 15 each year whether controls will be invoked on the following year's crop. When the October date rolled around, the total indicated supply was 16,451,000 bales, and needs plus a 30 per cent reserve were estimated at 18,083,000. So the Secretary announced "no controls." But two months later, total supply is estimated at 17,720,000 bales and needs plus reserve at 17,400,000. Controls are needed but cannot be imposed because the law says that imposition must be prior to Oct. 15.

If the cotton market situation can change that much in 60 days, according to the best estimates of the department, what chance is there ever to plan for production and marketing 12 months ahead? Conditions affecting the crop are in such great flux that planning is more likely to go wrong than right. There was a time when only the vagaries of the weatherman (and the bugs) had to be taken into account. Now, with world conditions as they are, the export market for the crop surplus varies greatly.

And there is another angle. While the department is leaning over backward to do the farmer an immediate favor, for political reasons, it is encouraging competition from the synthetics over the long period of years. We haven't yet figured out a better way than the rule of supply and demand with the suppliers individually and intelligently calculating the demand.—*Dallas* (Tex.) *Morning News.*

Dark Future For Smart Rats

We find ourselves unimpressed by the news that rats can be trained to go through complicated and skilled maneuvers in order to eat. After all, humans can be trained to do it too, though with difficulty. On our melancholy days we sometimes think that humans would be better off if they simply sat under cocoanut trees till the food fell down, and we doubt that these new roundabout methods of staying alive will make any multitude of rats much happier either.

Nor do we think the scientists are doing the rats a favor in teaching them the value of money. As soon as a rat learns that a nickel will buy one bit of cheese, a dime two and a quarter five, that rat is going to start worrying about where his next nickel is coming from. Civilization will have got him in its grip; and the claws of civilization have seldom, if ever, been known to relinquish a victim.—*The Sun,* Baltimore, Md.

What Kind Of Administration

The fact that the American people have voted to release business, labor and the individual citizen from the federal controls and restraints imposed upon them by the New-Fair Deals of the past 20 years has given rise to a currently spoken idea that the Eisenhower Administration will be "a business man's government" and that business must demonstrate whether it can work with government, not only for its own benefit but for the benefit of all people. And we are told that this will be an exacting task.

The suggestion emanates from those who have been the most notorious advocates of Fabian Socialism in our government, and is particularly noticeable in the ultra left-wing press. One is justified in questioning the intent of these people.

In the first place, the idea is without factual foundation. There is nothing to indicate that the new administration will be other than an "American Administration," and the fact that the various elements of our social, economic and political stratas are represented in the new cabinet insures this fact. Instead of indicating a predominant influence by one particular group, there is the strongest evidence that we will see our government return to its proper function as arbiter between conflicting forces; and this to the end that the rights and interests of the people in general may be upheld and protected.

The recent election was a clear demonstration of power by an outraged people against the graft and chicanery of an incompetent bunch of politicians, and the ultra-liberals — who are our only true reactionaries—either cannot see the true import of the election, or they purposely disregard the facts in order to lay the groundwork for what they hope will mean their return to power.

To accomplish this their first effort is to scare the businessman into a failure to exercise the opportunity he now has to lend his unfettered assistance in leading the nation back to the paths of rectitude, common honesty and efficiency; or, failing in this, they hope to

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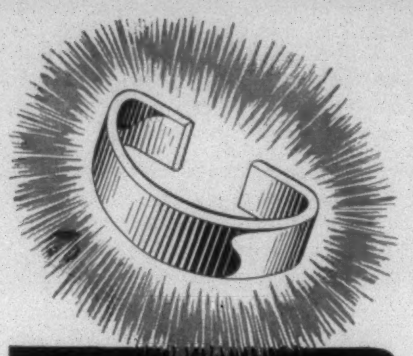

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set up a "whipping-boy" to be blamed for any and every possible failure that might eventuate in the operations of the government during the next four years.

It is a smooth scheme—but, like so many other so-called liberal suggestions, it overlooks the fact that "business" in America is not composed alone of management and stockholders—as the socialists would have us believe—but also embraces the worker and the public. In plain words—every one of us, regardless of our calling, our profession, our job, our social or our economic position is a part of business, and no obligation rests upon any one of us that is not borne equally by every other.

The people of America know what they voted for—a change—an opportunity to work as a team in assuring an administration whose first aim is the preservation of our "American Way of Life." They will not be misled by this wolf cry of "business administration." — *Southern States Industrial Council Bulletin.*

Textile Wages

SECRETARY of Labor Tobin has proposed to raise the minimum wage which employers supplying the government with cotton, silk and synthetic textiles must pay from 87 cents to $1 an hour.

Since the Northern textile mills, particularly those in New England, pay wages already averaging above the proposed minimum, what Secretary Tobin proposes would directly affect the government contractors in the South. Indirectly, however, it would also affect the Northern mill owners, at least to the extent that it furthered the long standing campaign of A.F.L. and C.I.O. to unionize the Southern textile industry and raise its wage scales to an equality with the North. It is estimated that about ten per cent of the capacity of the cotton textile industry as a whole is engaged on government contracts.

This newspaper does not undertake to say whether differences in living conditions between the Northern and the Southern textile communities, or differences in skill of the workers justify the prevailing differentials. But one thing is clear. The Department of Labor is intervening between employers and employees to raise the average wage level in this industry. For it can hardly be doubted that Mr. Tobin's proposal, though it affected only a minor part of the industry's operations as a whole, would create upward pressure on all textile wage scales in the South; it could eventually extend such pressure northward.

Another thing is clear, that the Walsh-Healey Act violates the principle of free collective bargaining, which Congress, organized labor and most employers have long respected. If that principle is good and right it should not be arbitrarily interfered with by the government.

To be sure, the Walsh-Healey Act is only one of the government's refusals to recognize collective bargaining as a bi-lateral right. Compared with some others of recent memory, it looks almost insignificant. But all of these interferences belie what Congress has said about the right of collective bargaining. Incidentally it aims a wanton kick at the lifeless remains of the stabilization program.—*Wall Street Journal.*

The Senate's Rules

NEW Dealers, with the support of a handful of Truman Republicans, sought to change the Senate rule governing filibustering in the belief that only under such a change is there even the most remote chance of putting across a federal fair employment practices act.

Those senators favoring F.E.P.C. argued that the Senate is not a continuing body because one-third of its membership changes every two years. They stated, therefore, that when it reassembles its old rules are not carried over from the preceding session, and that it must adopt new rules. Under this theory, they tried to strike out the present rule applying to filibustering and to permit limitation of debate by a simple majority—the votes of 49 senators, rather than of 64 as presently required.

The last time this rule was put to the test was on May 19, 1950, when 52 votes—12 short of the two-thirds majority required—were mustered in support of cloture. The rule is cloaked in its own protections. That is, debate on changing it cannot be limited. Thus any attempt to strike down the rule and

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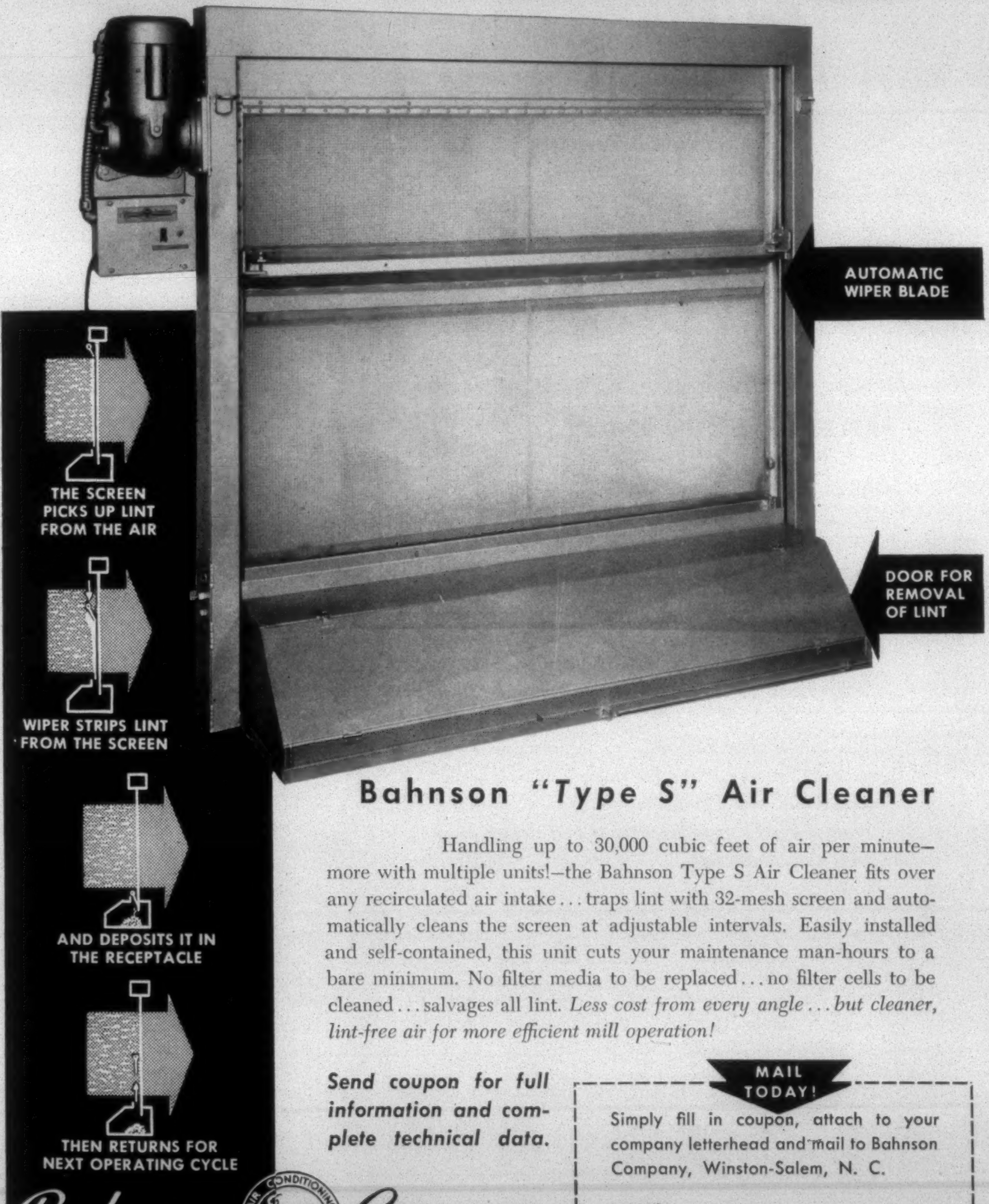
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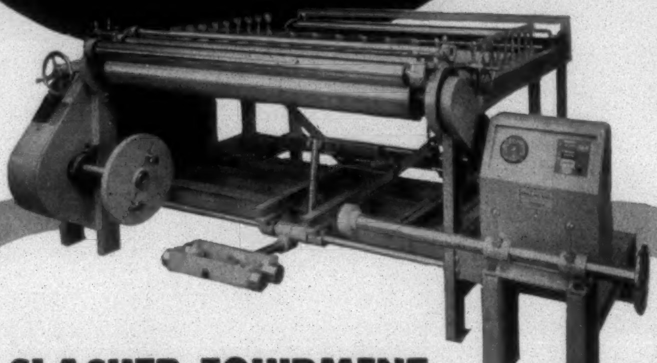

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thereby end filibustering is likely to promote a filibuster of itself.

As we have repeatedly said, the filibuster has important uses in protecting the Constitutional structure. Unlimited debate might, in some drastic contingency, be the sole means of preventing an overbearing President from overthrowing the Constitution.

That has been suggested by many senators during past debates. During the debate in 1915 on President Wilson's bill to arm merchant ships, Senator Cummins of Iowa said that an attempt by the President to "impose his will on the Senate" is an occasion on which a filibuster "is not only justified, but . . . imperatively demanded."

But the immediate issue is whether such drastic damage to the rules the Senate has erected for its own protection is warranted in the absence of any clear majority sentiment in favor of F.E.P.C. This proposed legislation is politically motivated. It is frankly a bid for the votes of racial and religious minorities. It is likely that a number of its advocates support it not out of moral conviction, but because of fear of political reprisal if they should refuse to do so. F.E.P.C. has become an instrument of political blackmail.

This legislation has never commended itself to us. It perverts the principle that no man shall be held in involuntary servitude by classifying employers as fit subjects of involuntary servitude. It would strip from them the right to choice of association. We know of no Constitutional warrant for such interference.

We believe the Senate will be well advised to stand by its existing rules and to sidetrack F.E.P.C. That issue is productive of more strife and discrimination than its enactment would possibly settle. Understanding and sympathy among the races have been improving steadily. Legislative intolerance in the form of mandatory regulations governing employment will not improve race relations but will harm them. — *Times-Herald,* Washington, D. C.

Those who have to feed small boys must know that it is not enough to assume they are hollow. Allowance must be made for a surprising elasticity somewhere along the line.—*Commercial Appeal,* Memphis, Tenn.

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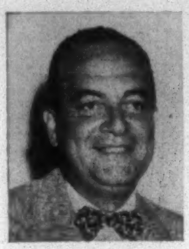
VOL. 79. JANUARY 1953 NO. 1



Textile Research Achievements In 1952

By J. B. GOLDBERG, Research Director, J. P. Stevens & Co. Inc.

A PROMINENT educator recently criticized the textile industries for their lack of research, saying that they depend on the machinery producers for equipment improvements and the chemical industries for new fiber and dye developments. We admit that we expect machinery manufacturers to conduct research to improve and develop equipment for use by the weavers, dyers and finishers. Likewise, we look to chemical companies and yarn producers to give us the new fibers with which improved fabrics can be created, and we rely on the dyestuff producers to pioneer in the research necessary to enable dyers to process those fabrics successfully. But we regard all of them as important segments of our great industry, and it is not true that the mills or finishers are lacking in initiative or lagging in research. It must be remembered that many of them are constantly making processing improvements through their own research efforts but the details are not disclosed in the literature.

In the following review of textile research achievements no attempt has been made to list every new product, process or piece of equipment which was announced in 1952, but those which are mentioned are evidence of real progress in everything from fibers to finished fabrics.

Fibers and Yarns

Man-Made Fibers—We await with patience, fortitude and trepidation the advent of some fabulous fiber which will do everything that a yarn producer dares to claim and at the same time be cheap and available. While we dream of such a whale of a fiber, the Japanese reported limited production of the fiber of a whale derived from blubber after extraction of the oil. Also from Japan, probably inspired by our great consumption of fabrics called sharkskin, came word of Cetalon, a protein fiber said to be derived from shark waste. Adopting what appears to be the hard way to create new fibers, scientists from the same country disclosed details of a method for making an acetylated fiber by using viscose staple as a base.

Under a licensing agreement with the French producer of Rhovyl, plans were revealed for the making of Movil, a polyvinyl fiber in Italy, while the German Phrix Co. began production of "Redon" acrylic fiber. Several of the newer man-made fibers have been a pain in the neck to many spinners, weavers and dyers. A more cheerful note emanated from France where one doctor claimed that the wearing of Rhovyl fiber gave relief from rheumatic pain, suggesting that the soothing effects were due to the static charges generated by the fiber passing through the body. German-made Perlon was to be made available in 1.4-denier staple fiber early this year, promising new possibilities in spinning counts up to 150s.

There were but few official announcements of new fibers in the United States during the past 12 months. The trade papers carried reports of another contender in the field of cryptic acrylics, Eastman's M-24; also, Celanese's experimental high-tenacity yarn, X-36, and Du Pont's No. 109 viscose. Perhaps concerned with the possibility of being accused of relying on numerology rather than chemistry to synthesize new fibers, Creslan and Cyana were registered by the American Cyanamid Co. as likely names for their acrylic fiber and yarn originally introduced as X-51. American Bemberg Corp. entered into the production of staple early in the year and some months later announced Syntussa as its new thick-and-thin filament yarn. Celanese offered a spun-dyed thick-and-thin acetate yarn last Fall. A new version of Dynel with improved heat-resistance was promised by Carbide and Carbon to supplement their present fiber, and Saran introduced multifilament yarns in a wide range of colors as well as ten-denier crimped staple for drapery, suiting and carpeting blends. Minifil coarse-denier continuous-filament viscose yarns were created by American Viscose to yield unique effects in woven and knitted fabrics, while their Avcocel was said to be a cellulosic fiber with thermoplastic cellulose ester coating, suitable for use as a binder in plastic laminates. Celaperm was the name given by Celanese to their spun-dyed acetate yarns in a wide range of fast colors while Tennessee Eastman Co. expanded output of Chromspun acetate to include staple as well as continuous filament yarns.

Converting production from continuous filament viscose to staple, Hartford Rayon was expected to be marketing fiber early in 1953 and the English Courtaulds company's new American plant was also scheduled to be in production on viscose staple shortly. New synthetic fibers were said to be under development by Dow Chemical and B. F. Goodrich, among others, and Allied Dye and Chemical made known plans to erect a plant to spin Nylon 6 polymer within the next two years.

Quite a few interesting patents were issued in the field of man-made fibers during the past year. Several of these pertained to the manufacture of Meryl, a low-shrinkage, high-tenacity viscose yarn, described at the Textile Research Institute meeting in November by a representative of the French Comptoire des Textiles Artificiels. Another patent assigned to this company covered the treatment of rayon fibers with dry saturated steam to reduce swelling and hygroscopicity, and just a few weeks ago the same producer disclosed a novel method of dry spinning a cellulosic yarn from a thick, aqueous solution in air at room temperature.

Disappearing yarns continued to intrigue several yarn manufacturers, and details of a water-soluble cellulose yarn were described in a patent assigned to Courtaulds early last Summer and another type of water-soluble yarn was patented by Union Carbide and Carbon in September. Celanese invented a yarn made from a mixture of normal and partially saponified acetate staple resulting in novel effects after dyeing. Artificial filaments containing solid particles which lie wholly on the inside even though many are larger than the diameter of the filament, were the subject of still another inventor's patent, the bulbous swellings supposedly contributing to the fibers' insulating properties. A unique coated rubber thread was made by applying nylon from a formic acid solution, according to a British patent. Among patents awarded to Du Pont were a process for making a crepable regenerated cellulose yarn by spinning and combining into a single yarn on a direct spinner a group of filament yarns with different shrinkage characteristics and several methods for making improved polyvinyl alcohol fibers. Just a few weeks ago the patent literature disclosed a process by American Viscose in which two yarns of different composition were combined, their differential shrinkage in woven fabrics imparting a boucle effect.

Several patents concerned with fiber manufacturers were issued to companies not engaged in the commercial production of textile yarns. Fiberfrax, a light-weight ceramic fiber, made by Carborundum from aluminum oxide and silica, was characterized by extremely high heat resistance and good insulating properties. It was claimed that mixtures with other fibers had been successfully carded and spun into yarns. Protection of cellulose fiber against heat ageing by incorporation of a guanidine carbonate in the fiber was claimed in an invention of United States Rubber. Standard Oil Development Co. recently received a patent on the production of a yarn composed of acrylonitrile and isobutylene.

Natural Fibers—No annual review would be complete without some mention of the perennial ramie fiber. Last year the Army Ordnance Department reported that the most successful fiber substitute for silk in powder bags to date was ramie. From Florida, the birthplace and burial ground of many a ramie venture, emanated news that one more new degumming process for this hardy fiber had been developed.

In December a California cotton man announced the invention of what was believed to be the nation's first portable cotton compress, representing the unique combination of 25 years of dreaming, ten months of work and an outlay of $225,000. In Georgia, a company was said to be working on a special process to develop a more lustrous cotton, but further details were not revealed. An improved method for aminizing cotton, making it more readily dyeable with acid dyestuffs and at the same time improving the fastness of direct colors, some of which also contributed flame resistance, was originated in the Southern Regional Research Laboratory. Replacement of kapok by superfine fibrous glass in Navy life-preservers was credited with saving almost half a million pounds of that scarce natural fiber in one year.

Although one of the attributes of the man-made fibers is said to be their non-irritating quality, some wool groups showed signs of being slightly allergic to the mildly exuberant allegations of several chemical fiber supporters. However, the synthetic fibers were not the sole irritant, since a competitor from the animal kingdom, the chicken, threatened to graze on the sheep's territory when the Army Q.M. Corps suggested tremendous potential saving anticipated by replacing wool with chicken feathers in comforters. Taking a cue from the producers of man-made fibers who have at times given coming-out parties for their debutantes identified with letters instead of names, the virtues of wool were extolled in a recent issue of *American Fabrics* as that old wonder "Fiber W." In Idaho, experiments in feeding sheep a new type of mineralized salt resulted in an outbreak of glamorous red-lipped lambs. This could be the forerunner of research to produce colored wool at the source of supply to compete with dope-dyed rayon.

New automatic silk reelers operating in Japan and improved soaking methods were two developments said to effect substantial labor saving, while in the field of finishing, experiments with the application of acrylic and silicone resins were considered promising in improving silk fabric strength and resistance to wear and sunlight.

What might truly be described as scraping the bottom to dig up a new natural textile fiber was indicated in the news story from Australia where experiments were carried out with thread-like fibers taken from marine growth roots. Although the fibers were up to eight inches in length and were claimed to be dyeable and rot resistant, the recovery process was admittedly expensive.

To end comments on the year's advances in natural fibers on a sweet note, banana and pineapple fibers were reported to have been spun and woven into fabrics on a newly-designed Philippine hand loom.

Manufacturing Methods and Equipment

Fiber and Yarn Processing—Improved mechanical cotton picking was promised by use of a new 600-pound picker working on a system of rotating blades and said to reduce fiber mangling to a minimum. Installation of a line of Junior cleaners with three spiked beaters at one mill resulted in the better removal of pepper trash and yielded more uniform roving. The Whitin G10D superdraft roving frame was described as suitable for fibers and blends of all kinds in lengths of from two to seven inches, featuring inclined roll stands, new type springs to eliminate dead weighting of rolls and variable weight distribution. Saco-Lowell introduced the SG-1 Gwaltney spinning frame with 11¼-inch traverse to produce a one-pound package with reduced tension and tension variation, the Duo-Roth drafting system to increase fiber control and the F-5 roving system to handle fibers up to nine inches in length. At the Delaware Mills in New Castle, Del., the Turbo Machine Co. made the first installation of a new tow stapler on the Perlok patents.

A new long-draft unit for any Bradford spinning frame was announced last January by a Rhode Island machine manufacturer. At their Marcus Hook research department, American Viscose carried out tests on a 320-spindle gear-driven spinning machine designed to handle 100 per cent rayon, worsted or blends with drafts as high as 27. The

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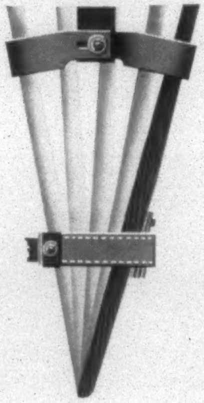

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Bigelow card compensator was a new device which provided means for controlling and improving the uniformity of roving on woolen cards. Uniform tinting of blends was accomplished by the Unitint machine, designed by a Southern machine company. Nylon-bearing top rolls requiring no lubrication were offered as an aid to produce cleaner yarn, and a Washington inventor patented an electronic circuit for apparatus designed to detect slubs in yarn. From Greenville, S. C., there were reported a new Unidraft ring spinning frame and a new adjustable gauge twister.

Taking a tip from the vogue for pre-blended baking mixes to turn out fool-proof products, a pre-blended raw felting stock called Ready-Mix was introduced for the production of uniform, cost-controlled felt. An experimental hydro-sheave card drive to eliminate overhead shafting in spinning mills was tested at the University of Tennessee cotton spinning mill laboratory and is now ready for plant trials.

For conditioning and twist-setting yarns on bobbins or cones, a New Jersey firm introduced a cold water conditioner. A number of patents were issued during the year on new or improved double twisters. Barber-Colman was reported to be experimenting with an automatic spooler to handle cheeses from the Gwaltney frame spindle, and the Pneumastop electric eye stop-motion and waste-collecting device for roving frames was undergoing trials in several mills. The Durometer was an instrument marketed for testing the density of yarn on packages, utilizing a blunt contact pin and spring recorder with a dial gauge. An automatic radial quiller was offered by Abbot Machine, particularly designed for mills with widely diversified production.

Among foreign inventions which attracted interest were several German machines. One was the Pfenningsberg direct-spinner which spins directly from cotton sliver cans over a five-roller system with a leather apron final drafting roller allowing a draft of up to 100. Bremer Machine Works brought out fully automatic roller cards and carded yarn ring spinning frames with twist-drawing mechanism. The French De Stains K-10C direct spinner for processing tow to yarn was said to give close control over fiber length. Details of the new Swiss Rieter fiber blending system were disclosed and the same company received a patent in this country on apparatus for producing spun yarns from continuous filaments. Exhibited at the Milan Fair were an Italian cotton card featuring lap feeding and sliver delivery in front of the card and delivery of flat strips into a box through a pneumatic system and a spindleless conical bobbin winding machine for rayon; also, spinning frames with a pendulum drawing device with drafts of from 30 to 50.

English developments during the past year included an improved Supercop winder, a self-contained yarn tension recorder, an anti-wear broad-gate tension for synthetic yarns, a patented exhaust cleaner for cards, and a new brush for use on ring frames to remove loose fibers. The Feco self-contained light-weight rotating spindle permits cleaning of fly during running of the frames. The Shirley Institute announced that a new cotton opener and cleaner would be available in 1953.

Warping, Slashing and Weaving—For elimination of sparking and other annoyances associated with electromagnetic devices for warper stop-motions, McBride introduced hermetically-sealed mercury switches. The Southern Research Institute, under the sponsorship of the Avondale Mills, built a wet-lease system into a slasher to improve sizing and thereby reduce warp shedding, and Proctor & Schwartz has devised a new air slasher dryer with a capacity of up to 1,000 pounds per hour. The increased popularity of homogenizers for preparing sizing materials was evidenced by the introduction of a new 800-gallon per hour machine developed for mill use. To reduce sticking of sized yarn to slasher cylinders, Teflon polytetrafluorethylene resin was applied as a coating to those cylinders. A small model Gentle-Air dryer was marketed by Uxbridge and recommended for mills requiring up to 750 pounds per hour drying capacity.

New models of the Crompton & Knowles filling-mixing looms were described in detail last month and deliveries were expected to be made early this year. Disco Industries introduced a narrow fabric loom for weaving zipper tapes and similar materials at 2,000 picks per minute, inserting the filling by a needle and taking the yarn from large cones. The Italian Sitam narrow fabric shuttleless loom featured a flat picking arm synchronized with the shedding motion at speeds up to 900 picks per minute. A hand loom weighing only 33 pounds was said to be suitable for weaving plain, twill and satin constructions in widths up to 76 inches. A king-sized suction system for cleaning looms was offered by a Connecticut machine company.

Interest in shuttleless looms was not lagging, and one patent issued to Draper covered a method of controlling loose ends of filling picks inserted with carriers at both ends. Details were disclosed of the Swedish Maxbo shuttleless loom which uses air current to carry filling through the shed at 40 meters per second with the loom operating at 350 picks per minute. The French Sobretex high-speed loom uses a new type of picking arm on each side of the loom, doing away with shuttle, drop boxes, and preparatory filling winding.

Research at our textile schools continued to show progress, and at Clemson special temples were developed to grip fabrics without rolls, and an eccentric drive gearing designed and installed at the same school permitted a 12 per cent increase in loom speed without increasing shuttle speed or reducing picking time. Mill research organizations also played an important part in making contributions to the industry, and the Deering Milliken Research Trust offered a new beam brake for cotton slasher creels to minimize run-out waste. A few weeks ago West Point Mfg. Co. reported that a new plastic laminated vibrator block for Draper looms, made with their Lantuck non-woven fabric as a base, was giving far longer life than the conventional wood blocks.

From abroad came a new English high-speed sectional warper featuring variable speeds up to 800 yards per minute, a Swiss metal harness-frame regulator, an English hydraulic beaming machine, a German device to permit automatic attachment of strings of four different colors to mark fabric faults in the selvage; also, the Knotex German high-speed knot-tier, and a French device for automatic shuttle changing. A stream-lined version of the Fayolle-Ancet circular loom was exhibited in Italy.

Finished Goods

Dyeing and Finishing—During the past year almost 500 new or improved dyestuffs, pigments and textile chemicals were made available for better dyeing and finishing of fabrics composed of natural and man-made fibers.

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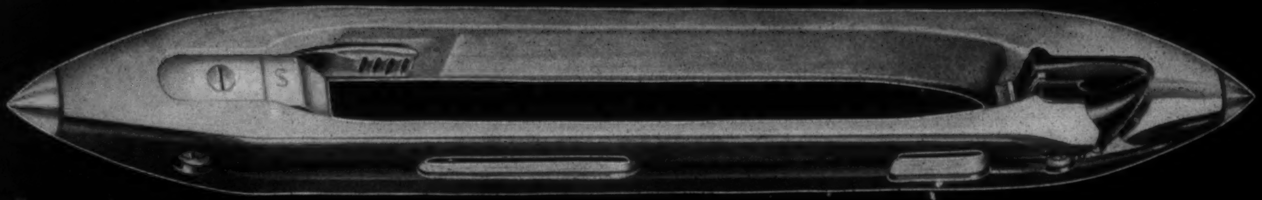

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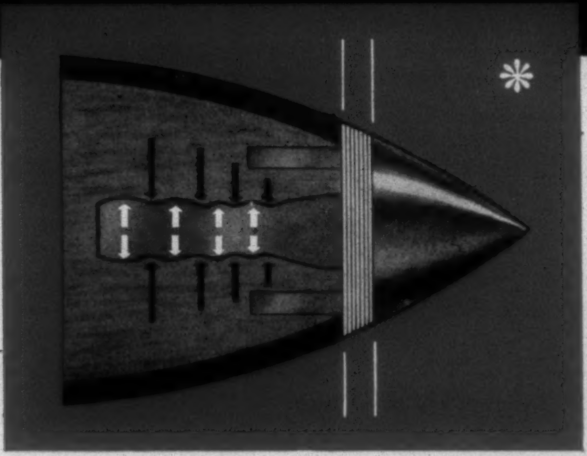

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Suit," no small amount of research was directed at making the newer synthetics more readily dyeable. A British inventor claimed improved dyeing of Terylene fabrics with dispersed acetate colors by short pressure steaming. Deep shades with good fastness properties were achieved in the package dyeing of Orlon by a North Carolina firm, while a student paper presented at the Piedmont Section of the A.A.T.C.C. disclosed results of the pre-treatment of Orlon fabrics with ammonium thiocyanate solution to give deeper shades with vat colors. Satisfactory methods for printing fabrics of acrylic fibers were described at the annual A.A.T.C.C. convention in Boston in November, and roller printing of 100 per cent Dynel fabrics was accomplished by a technique employing vinyl resin inks, with claims for good light and washfastness and high crock-resistance in a full range of bright colors. Du Pont sponsored an all-day technical conference in Wilmington last Summer and showed a semi-commercial model of the new Barotor machine for pressure dyeing of fabrics of all synthetic fibers and gave details of new dyestuffs and application methods for Orlon and Dacron.

Static electricity charges generated in garments made of the newer hydrophobic synthetics shocked research workers into developing a number of finishes to minimize this objectionable characteristic of many fabrics. Most of them were of the non-durable type, some being intended for use as a rinse in home laundering, but at least one was reported to be resistant to repeated laundering. The Statigun, an English-made piece of equipment, sounded like a new miracle weapon to kill static, but its true function was for the investigation of static charges on materials in process or arising from machine operations. The electrostatic locator was a somewhat similar instrument made by a Long Island concern.

New English developments pertaining to wool processing included a chemical treatment without the use of chlorine to reduce wool shrinkage and felting, the Maifoss process for producing two-toned effects on woolen fabrics without prior blending, the application of ultrasonics to wool scouring, and a boric acid treatment used in applying neutral dyeing acid colors. Reminiscent of the refrigeration technique advocated during the early days of nylon for everything from weaving to the preserving of hosiery, a British patent was granted on the passage of woolen fabrics through a freezing chamber during the finishing routine to give the fabric a good hand, clear colors and better "workability."

From Western Regional Research Laboratory came word of a wool scouring process using suint and alcohol to reduce felting, increase recoverable by-products and relieve stream pollution problems. Last month it was announced that Victor Chemical had purchased from Pacific Mills the process patent involving the use of diammonium phosphate in wool dyeing and was prepared to issue royalty-free licenses to textile firms.

Shrinkage control and improved abrasion resistance were claimed for a new resin finish for rayon fabrics developed by a New Jersey concern with trials on cotton fabric also reported promising, and another chemical company offered what they said was a unique resin finish which imparted durable water-repellency, shrinkage control and crease-resistance in one operation. Limited amounts of cotton and rayon fabrics were treated with nylon resin by a few finishers with claims of improved strength and abrasion resistance. A German publication reported on Siotex, said to be a new process utilizing silicone compounds, to impart increased wear-resistance to textiles. A pre-treatment of cellulosic materials to make them more receptive to impregnation with urea or melamine formaldyhyde resins was the subject of a patent obtained by the Southern Regional Research Laboratory.

The continued study of the causes and some remedy for tar spots in cotton was instigated by the National Cotton Council, and at least one chemical company offered a compound which they stated would dissolve such tar contamination in the wet processing of cotton fabrics.

At an American Chemical Society meeting in Atlantic City certain dyes were described as imparting a high degree of water-repellency to cotton and wool fabrics, and at the same meeting a report was presented on a durable flame-resistant finish which did not impair fabric hand or strength and remained effective after as many as 100 commercial launderings.

Following the trend of what appears to be an almost insidious plot to make the housewife adept at everything from paper-hanging to television repairing, we have come to accept home dry-cleaning and dyeing as standard domestic practice. The Aerosol bomb has become as popular a weapon at home as the rolling-pin, dispensing everything from deodorants and insect-destroyers to liquid hairnets and furniture wax. More recently at least half a dozen water-repellents have been marketed in bomb form, comprised of either wax mixtures in solvents or silicone compounds, all intended for the easy application of a protective coating to every type of outerwear. Home moth-proofing treatment for woolens during washing was promised through use of EQ-53, a development of the U. S. Department of Agriculture, described as a mixture of DDT and chemical carriers. Also in the field of protective agents, the Army was reported to be trying out a new insect-repellent applied to uniform fabrics and affording protection against ticks, chiggers, fleas and mosquitoes. A concentrated organic chemical compound to whiten and brighten nylon when used as a rinse in commercial finishing was patented by a North Carolina firm, and Mohawk Carpet Mills received a patent on a soil-resistant pile fabric in which the non-wool pile was coated with water-insoluble substances containing a large proportion of silica.

The Celanese research department reported preliminary results of the application of silicone resins to acetate fabrics for durable water-repellency, increased soil-resistance and some improvement in resilience and abrasion resistance. The same company patented a method for producing a pile on textile fabrics made from yarns composed of a mixture of acetate staple and wool, and a process for dyeing acetate only in fabrics containing acetate and nylon. A new chemical treatment to increase the ironing temperature of acetate fabrics was described in a British patent, and the printing of partially saponified acetate fabrics by a silk screen technique to yield two-tone effects was exhibited at the National Science Fair in Washington.

The treatment of nylon cloth with selected quinone compounds was said to improve its heat-resistance, according to the two co-inventors. Delustering of Terylene was accomplished by use of sodium or potassium hydroxide at elevated temperatures, described in a British patent, issued early last year, while another British patent covered a method for dyeing nylon white with a substantive compound. Better control of nylon fabric heat-setting was said to be afforded by a "radiametric pyrometer" which measured fiber temperature during processing.

The textile research department of American Viscose described a method for processing acetate tricot in open width with reduced dyeing time, lower cost and a minimum of fabric distortion. They also began to license finishers to use their Avcoset rayon stabilization process and it was reported that considerable success was achieved in stabilizing viscose tricot fabrics by this method. Rayon fabrics can now be Everglaze finished to be wool-like, with a polished glaze, low luster, or textured surface effects, according to a recent announcement by Joseph Bancroft and Sons Co.

For those of us who have not been persuaded to take our chlorophyll internally, in chewing gum, or in our bath soap, there was still opportunity to keep free from subway scents and avoid being social outcasts. Last year chlorophyll made its appearance in green prints on nylon for men's pajamas and underwear, in sheets and pillow cases, towels, mattress covers, rayon linings, in socks with the glamorous name of Sweet Feet, and even under foot in rug cushions.

General Dyestuff announced their Genray process as a slowed-down padding method for dyeing vat shades on rayon by the continuous Williams unit. New to the field of dyeing and finishing, Pittsburgh Coke and Chemical Co. demonstrated a pilot model of the Bond continuous dyeing and scouring machine which operated by forcing liquor through holes in two perforated metal plates between which fabrics were passed. In England the Turkhead dyeing process for viscose was said to give rayon yarn-dyed quality at piece-dyed price, with no disclosure made of the method which automatically mixes concentrated dye solution and impregnates the yarn in less than 20 seconds. A new dyeing machine offered by a North Carolina engineering company provides for pressure bleaching boiling-off and dyeing of tricot fabrics, handling 4,000 yards or more in one operation.

As a protection against chafing and staining of fabrics during dyeing, an extruded vinyl tape was made available for covering dye reels and replacing end cloths. Later in the year, the Hunter No-Lap reel dyebecks were introduced with the feature of providing traction without the use of covering, the proper tension to each strand of cloth being obtained through properly adjusted inverted V-bars. New dyebecks made by Rodney Hunt featured dual reel and plaitor cloth handling system said to eliminate slippage and any need for wrapping the reels. A new Versamatic semi-decating machine with higher capacity, taking any type of fabric roll or fold and delivering in either form, was developed by the David Gessner Co.

Said to be only slightly higher in cost than screen printing, a new multi-color photo-printing process was invented to reproduce Kodachrome photographs on fabrics without engraved rollers or screens.

Foreign developments in dyeing, printing and finishing equipment were fairly numerous during the past year. An Italian vigoureux machine was introduced which permitted drawing wool and synthetic tops and printing colors simultaneously. A Norwegian engineer invented a multicolor printing machine said to be 60 times more efficient than any similar press in use in Europe and the Austrian Zimmer automatic vertical duplex screen printing machine introduced a new technique particularly suited for printing quilts, blankets and toweling. The Swiss Desmo-Print mechanical screen-printing machine was said to be adjustable to tables and screens of all sizes.

Automatic stop and reversing, constant tension and built-in dye agitation were features of a new Danish jigger, one of which was in use in a New Jersey dyehouse. An Italian tensionless dye jigger with automatic controls and reversing device was said to be capable of handling the most delicate fabrics without damage. It was expected that U. S. patents would be issued shortly on a Belgian process dyeing machine which was capable of yielding level dyeing on fabrics made of the newer synthetics with saving of both time and power. Radio-active isotopes were used in connection with a detecting device created in a Scottish print works to determine color contamination in multi-color printing. A rope hydro-extraction unit introduced by a Swedish concern was claimed to save time and reduce handling. A patented British process provided means for obtaining ingrain or flecked effects on wool materials in a relatively simple manner.

An American investigator reported that among other foreign machinery developments of particular interest were the German Fametex and Swiss tenter frames with provision for changing from clips to pins in a short time; also, a German padder with unique roll arrangement to provide greater reservoir of dye liquor. The use of superheated steam dryers and bleaching unit and a horizontal padder were also described by visitors abroad. The Rapidsonic machine was offered in England as a device for providing very fine textile emulsions.

New Developments in Fabrics—There was a time when "Mary" was considered a grand old name, but the increased popularity of the English Viyella fabric gave a tremendous boost to Ella. Within a few months we were greeted by Lanella, Mayella, Gayella, Granella, Botanella, Dijenella, Nordella, Alpinella, Acryella, Permella and Dynella.

Finer fabrics with greater opaqueness, the appearance of woven cloth, and the elimination of snagging were considered practical with the development of 40-gauge tricot. The setting up of standards for warp knit fabrics was being undertaken by several producers and one finisher offered napped and sueded tricot materials in plain and fine embroidered effects. One weaver made available limited quantities of woven nylon crepe fabrics made under the Swiss Helanca patents disclosed in 1951, and men's stretch nylon hosiery using similarly processed yarns made their appearance in large volume late last year. A patent issued by Scott & Williams described means for making nylon crepe hosiery by use of permanently-crinkled yarn after removal from a knitted tube in which the loops had been heat-set.

Nylon laminated fabrics were found to be very effective as military body armor, and it was recently decided to use the same fabric for protective shorts for the lower part of the body. Another army garment designed as protection against gas and germ warfare was an air-tight, water-cooled suit made of butyl rubber.

Ny-Sul-Lite was the name of a new all-nylon washable batting prepared by Star Woolen Co., and a cotton warp nylon-filled fabric was made by a Philadelphia concern as an interlining for apparel coat fronts. Price was said to be competitive with hair-mixture constructions and the finish was resistant to cleaning, pressing or water-soaking. Water-insoluble coated nylon was the basis of a patent issued on Nylok cord used to make fishnet.

Apparently convinced that there is gold as well as aluminum in the metallic insulation lining fabrics which made their debut several years ago, a number of finishers and converters invaded this field during 1952 with such products as

Temp-Resisto, Insul-Tex and Weatherwall window drapery lining. To really beat the heat, a Swiss firm was reported ready to market Tempex, a fire-proof material composed of seven layers of cotton fabric and aluminum foil, with the garments fabricated therefrom intended to protect firemen in combating flames.

A knitgoods manufacturer introduced Perma-Sized shrink-resistant garments and Sanforized terry toweling was announced as an innovation by the Mooresville Mills.

In England there was an exhibition of an unsinkable swimsuit made with a panel of trapped air in a waterproof, kapok-lined fabric inserted in the front of the garment. Not unlike the method described several years ago whereby sheer woolen fabrics were created by combining the yarns with water-soluble alginate carrier threads, Imperial Chemical Industries, used a patented method for producing closely-woven fabrics by ply-twisting cotton or rayon yarns with Terrylene and then dissolving the latter. A subsidiary of Courtaulds experimented with the use of polyethylene yarn in fused collars for men's shirts, and another English firm was said to have been successful in making overalls and sheeting of blended cotton and rayon fabrics, both withstanding severe service and laundering.

Acetate satin bedsheets and pillowcases were made by a Chicago company while an Ohio manufacturer offered paper ones as a low-priced replacement for rubber. A simple method suggested for removing the annoying static electricity charges built up in certain fabrics or plastics was to wipe the surface with a De-Stat cloth consisting of cotton fabric impregnated with anti-static compounds, and Rocloth antiseptic cloth was introduced as a treated fabric which had germicidal properties after immersion in warm water.

The currently widely-used blends of acrylic fibers with wool for stabilization against shrinkage were patented by Du Pont last May. Recognizing the vogue for pleated skirts, stimulated by the availability of blends containing adequate percentages of hydrophobic thermoplastic fibers, an English textile converter displayed a simulated pleated effect on a cotton fabric obtained by applying a novel screen print.

Plastics continued to make some inroads on textile markets with a few novel products publicized during the last 12 months. The director of the Norwegian Textile Research Institute was reported to have applied for a patent on a method whereby a plastic material was converted directly into porous sheets, while good draping qualities were claimed for experimental bonded fabrics made in this country with extremely fine theromplastic resin fibers. Cotton-base fabrics coated with polyvinyl chloride by an English process were given a deeper embossing than was normally obtainable in conventional plastics, reproducing the texture and appearance of soft fabrics. For tow-target use, the U. S. Navy and Air Force were reported to have adopted a polyethylene leno material. An Ohio shade manufacturer announced that his Weavetex cloth reproduction made of polyvinyl chloride was almost as drapable as woven fabric, and one automobile manufacturer predicted widespread use of vinyl-coated nylon and Fiberglas fabrics for convertible automobile tops. Transparent plastic surgical dressings are a new Air Force development, the sprayed coating said to give immediate protection to wounds while replacing large amounts of bulky cotton bandages.

While we have often heard that some women looked as if they had been poured into their dresses, it remained for National Cybernetics Co. to advertise the claim that poured apparel was on the way and that the chemical industry has plans to produce fabrics by pouring a mixture of chemicals and textile fibers over flat mesh.

The popularity of dope-dyed acetate taffetas was somewhat jeopardized by the complaints of cutters, consumers and drycleaners who found that the water-spotting of the greige goods, commonly used with no finishing treatment, was most annoying until the research chemists came to the rescue with the development of spot-resistant warp sizing compounds. Manufacturers of silk fabrics recognized a similar objectionable water-spotting characteristic of their materials and were soon applying spot-resistant finishes.

A German manufacturer demonstrated the Ultraflor process for treating hosiery of all types of yarns to make them more run-resistant, and similar claims were made for an American product sold for home application with the assertion that the life of nylon hosiery could be doubled through the use of this chemical rinse. Just about when women are beginning to understand that 15-denier nylon hosiery cannot be expected to give the service of 30-denier hosiery, it was reported that 12-denier monofilament nylon would probably be ready for distribution this year. It will be recalled that some experimental hosiery was made with ten-denier yarns last year. Gotham Hosiery Co. apparently believes that hosiery needs as good protection as the aroma of freshly-ground coffee, and a few weeks ago it was announced that some of their products would soon be marketed in a protective vacuum-packed polyethylene envelope.

Glass fabrics which can be stretched up to 70 per cent in each direction were offered by one weaver for use in reinforcing plastics. A new style trend and market for textiles was indicated in the offering of easily-detachable fabric covers for electric refrigerator doors with curtains to match available in a variety of patterns. While not in the category of new fabrics, further ingenuity in the use of the man-made fibers and yarns was displayed in the announcement that nylon cord was used as a basic construction material for furniture and rayon flock was being applied to the coiled springs used in automobile seat cushions to take out the squeak.

Testing Methods and Equipment

For checking the uniformity of fiber blends of wool all the way from the picker to the loom, one mill suggested dyeing about one per cent of the wool with a fluorescent dye and using ultra-violet light to observe its distribution at various stages of processing.

The German Zillo-Test apparatus was described as a useful tool for rapidly identifying 30 different types of fibers with a special group of solvents. Selective staining and chemical tests were the basis of fiber identification techniques discussed by a research worker at a meeting of the A.A.T.C.C. last Spring and analytical methods for staple fiber blends of all kinds were published in detail in the August issue of the *Textile Research Journal*. Microscopic dye staining and solvent separation procedures were also outlined in a paper presented at the September meeting of the American Association of Textile Technologists.

The Sander Shrink-Tester, which was reported in a German publication, provided for automatic measurement of fabric shrinkage by gripping a sample between a lower fixed clamp and an upper moveable one, wetting it, drying and

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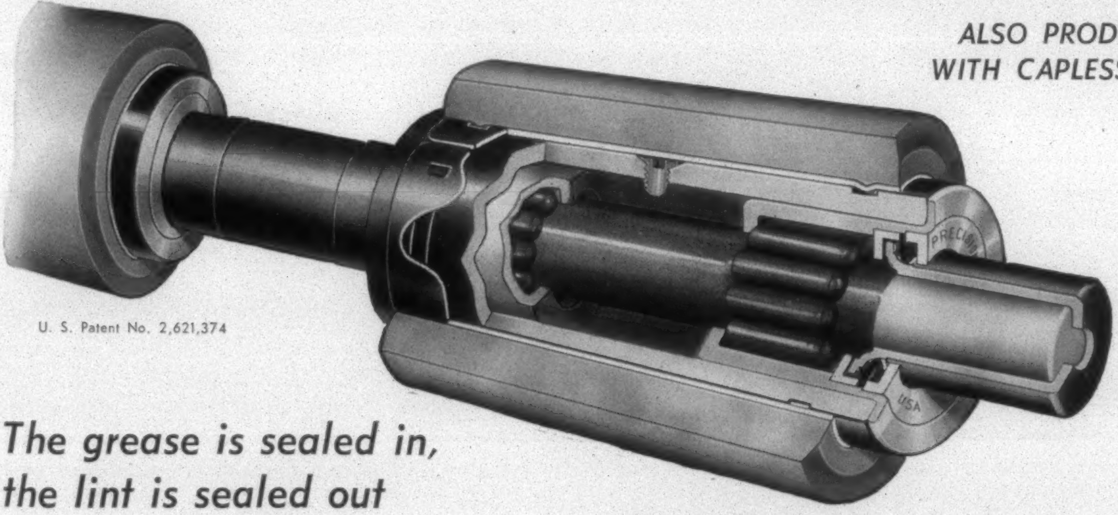

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reading the shrinkage on a scale. This apparatus and procedure were apparently very similar to the American Strip Tester, details of which were recorded in 1950. The Abradoflex abrasion resistance tester was developed for asbestos textiles and other heavier grade fabrics, with evaluation based on loss in tensile strength. The National Bureau of Standards constructed an extra-sensitive device for measuring stiffness rapidly and conveniently and it was expected that it might be useful for textiles as well as plastics.

Rapid determination of viscosity of sizing solution or similar mixes was made possible through the use of the Ultra-Viscoson, a new ultrasonic viscosimeter, and the making of color measurements for process control in less than 30 seconds was claimed for a device called the Colormaster Differential Colorimeter. A research worker from the Philadelphia Q.M. Depot reported that modifications of the standard Fadeometer gave maximum flexibility for controling and recording critical temperatures and humidities.

Developed at the University of Tennessee, the Stelometer was a pendulum device which permitted breaking of small tufts of cotton, the elongation being recorded at the same time. The Causticaire method for determining cotton fiber maturity and fineness was a new technique reported in a U. S. Department of Agriculture bulletin and a New Jersey firm introduced a universal tensile testing machine for testing fibers under loads of up to 1,000 grams and at elongation rates of from one-quarter to one-half inch per minute.

The Swiss-made Projectina projection instrument for the examination of fibers, yarns or fabrics at magnifications up to 400X recently became available in this country. Also from Switzerland came a unique test said to have been used to evaluate a new chemical fiber—a forced march of 30 kilometers by several employees on rough ground in stocking feet. Psychometrics for testing applied to textiles was introduced by U. S. Testing Co., utilizing a test panel for observations and reactions to design, color or texture, with statistical analysis made of the replies to specific questions.

The Celanese research department disclosed a new wrinkle tester constructed to simulate the clenched fist test on fabrics by producing wrinkles under controlled conditions. For more than a subjective evaluation it was suggested that other instruments be used to trace and record contours. The Accelerotor was a laboratory device developed under the research committee of the American Association of Textile Chemists and Colorists and showed promise of providing data on the abrasion resistance and colorfastness of fabrics in a very few minutes.

Announcement was made of Du Pont's plans to erect a $5 million textile research laboratory at Wilmington to provide facilities for fundamental and applied research on all phases of textiles and their processing, and a $3 million laboratory for research on Dacron at Kinston, N. C.

The International Organization for Standardization group met in New York in November and agreement was reached among the representatives from many nations on the general principles of colorfastness tests and specific procedures. While efforts have been made from time to time to establish standard labels for fabrics designed for certain end-uses, a highly original system was adopted by a German organization, using pictures of a "cat," indicating that material was suitable for dry-cleaning only, a "fish" for gentle washing, and an "elephant" to designate thorough launderability.

Organization and Research Institute Activities

Progress continued to be recorded by Committee D-13 of the American Society for Testing Materials in the preparation of standard specifications, tolerances and methods of testing. The research committee of the American Associatilon of Textile Chemists and Colorists reported on subcommittee activities on the study of methods to evaluate the durability of finishes, bleaching, colorfastness, antistatic finishes, fire-resistance, dimensional changes and drycleaning.

The annual report of the director of the Textile Research Institute at Princeton carried details of investigations in the field of fundamental research on projects of interest to all branches of the industry, and the Institute of Textile Technology at Charlottesville also made significant contributions to their member mills who sought aid in applying technology to fiber processing. The institute reports on the 17 cotton mill test covering the relation of mill processing conditions to yarn and fabric properties was regarded as most valuable in demonstrating the advantages of cooperative research. The National Cotton Council again sponsored the highly successful Cotton Research Clinics, introducing last year for the first time a conference on the chemical finishing of cotton. As at previous clinic meetings, research workers from government and industry laboratories met to discuss problems of mutual interest, and next month a similar meeting on cotton fiber processing through the weaving of goods will be held in Georgia.

It is evident that no small part of the textile industry's growth is due to the contributions made each year by those individuals and organizations engaged in research, and as we look backward with pride at last year's achievements, we look forward with confidence to this year's leadership among all industries.

Mr. Goldberg made his annual appearance as the textile industry's research historian before the American Association of Textile Technologists in New York City Jan. 7.

University Offers Course In Synthetics

A comprehensive survey of modern man-made fibers will be given in a new course to be offered for the first time in the Spring term by New York University's Division of General Education. Orlon, Dynel, Dacron, Acrilan, fiberglas, nylon, Vicara, X-51 and other materials will be considered in the class entitled "The New Synthetics: Man-Made Fibers," to be held on Tuesday from 8:10 to 9:55 p. m., Feb. 3 through May 19.

Instructor for the course will be Ira Zane, graduate of the Philadelphia Textile Institute and textile engineer who is now designer, stylist and production analyst for United Merchant Sales. Lectures will cover the new fibers from the raw materials stage through spinning, weaving and dyeing processes. New trends in manufactured items, such as one-fiber fabrics and blends and apparel and industrial uses, also will be considered. Discussions will highlight development and merchandising on all levels, and special attention will be given to designing and styling synthetic cloths and government-specification fabrics for the armed forces.

Registrations for single lectures or for the entire course will be accepted by the Division of General Education at its offices, 1 Washington Square North, New York 3, N. Y.

The Textile Outlook For 1953 & Review Of 1952 Operations

AFTER a pivotal year which saw the American textile industry pull out of a 15-month slump, all who are concerned with the manufacture of fabrics and yarns can look to 1953 with new assurance, President William A. L. Sibley of the American Cotton Manufacturers Institute asserted recently in appraising the outlook for the New Year.

"The outlook for textiles, as with industry in general, is no longer clouded by the fog of inflation, fears of higher taxes and anxiety for our nation's solvency. There is good reason to believe the textile mills will be supplying the most goods for actual consumption, the best goods for consumer satisfaction and the most economically priced goods since World War II, all factors considered. Consumer takings of cotton goods during the coming season should exceed those of last year by at least five per cent. On the basis of expanded individual consumption alone, without including military or industrial uses, the year's domestic cotton consumption can be expected to reach 9.3 million bales, compared with an annual average of nine million bales for the period of 1946-1949.

"This outlook is justified by the fact that excess inventories which weighted down the industry at the beginning of this season moved into distribution rapidly during August and September. October mill stocks, down to the equivalent of three weeks' production, were in line with the desirable operating minimum. Similar improvement has been seen at all subsequent levels of processing and distribution. Throughout the whole maze of secondary processors, convertors, fabricators, the cutting trades, industrial consumers and distributors, the stock situation this past Fall was the opposite of the clogged condition that prevailed a year ago. As stocks receded, expanding sales produced a backlog of unfilled orders not exceeded since the Spring of 1951. Most significant of all, these coinciding developments have occurred without artificial stimulus.

"As the new year of 1953 begins, the textile industry's recovery is based on sound elements of strength which, omitting the early stages of the Korean emergency, have not been surpassed since 1947. The indications are that the course during the months ahead will be a gradual and efficient expansion of the industry's output as consumer demand widens, with prices assuming their proper relationship to costs, and profits dependent on skillful and scientific management, as must always be the case in the absence of inflationary factors.

"The course of forward progress for textiles and all industry will be made more certain by a government which gives positive leadership, a leadership of courage and initiative in place of an administration which during recent years too frequently seemed unsure of itself, was easily panicked and was often negatve in its policies. Complete elimination of artificial price and wage controls should be urged by business and the public to clear the air and give our economy the freedom to adjust itself to a sound price structure, with the law of supply and demand once again able to determine prices.

"America's textile industry also looks for improvement abroad, somewhat in the pattern of the current domestic recovery. It is encouraging that the United Kingdom, which holds the key to trade liberalization, is ending the current year maintaining a balance of her international payments and with a substantial increase in dollar and gold reserves. The international outlook favors a widening of the free market and indicates a more liberal policy regarding the use of sterling in exchanges among countries outside the sterling area. If there does develop wider convertibility and increased transferability, a tremendous impetus will be given world trade, and cotton goods exports should quickly surge upward.

"There is no deficiency in the world demand for cotton goods, especially the high-fashion and superior quality products of American mills, once import and exchange restrictions are lifted. If this happens, and favorable signs are already evident that such developments may be expected, it will confirm the hopes expressed by the American mission to the International Cotton Textile Conference held in England during September. The Americans were the group expressing most optimism on that score, but developments since September have increased our optimism rather than giving cause to lessen it.

"In addition to enlisting the effort of textile nations to reduce trade barriers, the U. S. delegation won conference acceptance of a policy to expand the consumption of textiles through long-range promotional efforts based on the principles of free competition. The American mission's presentation of this program at the International Cotton Textile Conference was one of the highlights of 1952 for our industry. As these principles and techniques find application throughout the world in the months ahead, the new stimulation to textile business at home and overseas may well prove the conference to have been a milestone in textile history."

Year's Operations Reviewed

The final months of 1952 found the industry as a whole making gradual recovery from the decline that prevailed over the last three quarters of 1951 and the first half of last year. The imposition of price controls had deluded the general public with implications of scarcities and shortages of textile products. These implications were accompanied by a serious underestimate of the industry's capacity to produce which in turn over-stimulated both production and purchases and led to the build-up of huge inventories. The suspension of O.P.S. textile controls soon proved a necessary step in returning stability to this industry's operations. Signs of the upswing became evident in June 1952, soon after controls were suspended. By then the huge inventories which had been built up during the previous year were becoming exhausted while consumer pipelines needed refilling.

Manufacturers credited price control suspension as giving the industry a "psychological lift" as well. In their appeals to Congress and O.P.S. officials for relief, mill men pointed out that restoration of confidence in an industry which conducts most of its business on a futures basis—making its sales, buying its materials and scheduling its production months in advance—depended on removal of the uncertainties caused by the controls program.

As though to refute those who predicted prices would sky-rocket with the lifting of controls, the industry's expanding production brought about primary market prices comparable with those of pre-Korean days.

Prive Movements

One indicator of price trends is the monthly report of the U. S. Department of Agriculture of average prices, on a cents per pound basis, of 17 basic constructions of unfinished cotton fabrics. This average fell to 64.83 cents in May, low point for 1952 as well as for the entire 15-month period of decline. The October average of 70.42 was 22 cents a pound less than in October 1947.

The price situation is also reflected in the mill margin, which is the difference between the cost of raw cotton and the selling price of cloth made from that cotton. The so-called margin covers all wages, operating costs, taxes, overhead and profit. In June the average margin fell to a low point of 24.40 cents, the narrowest since August of 1946. By October it had improved to 33.98 cents, yet at this point it stood at a level lower than the margins reported in October 1948 and October 1949, and was but 3.65 cents above the margin of 30.33 cents that existed in October 1946, last full month of former O.P.A. controls of prices and profits.

Production of Goods

Although official production data for the entire year of 1952 are not yet available, partial reports already indicate an upsurge during the final months of the year. Production of cotton broad woven goods for the first nine months totaled approximately 6,968,000,000 linear yards compared with 7,770,000,000 linear yards in the corresponding months of 1951. Output fell to a low mark during April, May and June, the industry's lowest quarterly period since the third quarter of 1949.

Output of broad woven cotton goods showed a three per cent improvement during the third quarter. Among noteworthy examples of the business improvement taking place was the third quarter report on production of "dozen-priced" dresses which sell at wholesale in lots of a dozen. In the third quarter of 1952 output totaled 2,065,000 dozen, an eight per cent increase over the 1,724,000 turned out in the third quarter of 1951.

Production capacity of all man-made fibers as of November 1952 totaled 1,838,000,000 pounds on an annual basis of 52 weeks. By July 1953 the industry's capacity is expected to reach 2,056,000,000 pounds, according to a survey made by the Textile Economics Bureau, Inc.

In the non-cellulosic fiber field which includes such fibers as nylon, Orlon, Dacron, dynel, Acrilan, Vicara, saran, glass fibers and others, the bureau estimates capacity is expected to increase from current capacity of 319,000,000 pounds to 385,000,000 pounds by July 1953.

Fiber Consumption and Costs

Mill use of cotton, the major textile fiber, fell from a level of 39,089 bales a day in February to a low of 28,858 bales during the vacation month of July, then began to increase as the industry's forward sales started multiplying. During August, September and October the daily rate of cotton consumption had grown to 37,295 bales as compared with 37,068 a year ago. On an annual basis that rate is the equivalent of 9.6 million bales. It will need to run slightly higher to assure a 9.3 million bale consumption because of the normal seasonal declines in activity which will occur next June and July.

Through the first ten months of 1952, according to latest available reports, a total of 7,746,000 bales of cotton had been consumed as against 8,633,000 bales during the corresponding months of 1951. Average cost to the mills of this cotton was 41.87 cents a pound in January, the year's high, and by October it had declined to 36.44 cents.

Machine Activity

As 1952 opened, the industry was reported to possess a total of 23,118,000 cotton-system spindles, a capacity which has been maintained at about the same level throughout the year. Of these, 20,102,000 were consuming cotton in January; 1,258,000 were consuming fibers other than cotton and 1,758,000 were idle. In January a year earlier, when the industry was breaking production records, 23,201,000 cotton-system spindles were in place and 20,900,000 were spinning cotton; 1,392,000 were consuming other materials and 909,000 were idle.

Spindles in place during October 1952, last month for which official figures are available, totaled 23,122,000, of which 20,215,000 were consuming cotton; 1,397,000 were spinning fibers other than cotton and 1,510,000 were idle.

According to latest available reports, September was the busiest month of spindle activity, when the country's cotton-system spindles were active at 135.1 per cent of capacity based on an 80 hour week of two full shifts. Peak operation during the preceding year occurred in February 1951, when spindle activity reached 150 per cent of capacity.

Loom operations rose to 117.7 hours a week in October, top period of weaving activity during the first ten months of 1952 for which records are available. This indicated that the industry was working on an average of close to three full 40-hour shifts. As of Sept. 27 1952 the Census Bureau reports, a total of 358,600 looms were operating on cotton and 102,600 looms were weaving fabrics of rayon and other synthetics.

Employment and Wages

Paralleling the general business situation, textile employment declined during the first half of 1952 to a low mark during July, then began to expand swiftly as thousands of men and women were called back to the mills to work on mounting backlogs of unfilled orders.

Employment in broad woven fabric mills, including all fibers, total 554,100 production workers in September, latest month for which official reports have been made, compared with a total of 582,800 reported in September of 1951.

Total employment in the textile mill products industry, including yarn and thread mills, knitting plants, dyeing and finishing establishments and textile floor covering mills in addition to broad woven fabric mills, reached 1,234,000 in September, highest since December of 1951.

Average hourly earnings (straight time) of employees in cotton-system mills as reported by the U. S. Department of Labor were $1.267 in January 1952. By July, most recent month for which official data are available, the average hourly rate was $1.270, compared with an average of $1.254 for 1951 and $1.162 for 1950.

Cotton Textile Exports

Sales of American-made textiles overseas, which for a number of U. S. firms spelled the difference between life and death during the 15 months of slump, held up better during the past year than the industry had expected.

Exports of cotton textiles in the first nine months of 1952 amounted to 564,420,000 square yards as against 612,025,000 in the corresponding period of the previous year, a decline of 7.78 per cent. On the basis of these figures it is estimated the total for the year will reach approximately 725,000,000 yards compared with 802,000,000 yards exported in 1951.

During August and September the United States became at least temporarily the world's leading cotton textile exporting nation for the first time since 1947, outdistancing both Japan and the United Kingdom.

Robert T. Stevens, chairman, and others who served as delegates to the International Cotton Textile Conference believe that this development, accomplished despite the fact that American-made textiles are virtually debarred from many foreign countries, gives increased assurance of expanding trade for all countries if barriers to commerce—such as exchange controls, import quotas, subsidies and other hidden tariffs—can be removed.

Foreign Markets

Major overseas markets for American cotton textiles in 1952, in the order of their importance, were: Canada, Philippines, Indonesia, Cuba, Union of South Africa, Venezuela, Thailand, Peru, Belgian Congo, Haiti and Dominican Republic.

Six foreign market areas consumed at least a half million yards a month of man-made fiber piece goods during the first nine months of 1952. These were the Philippines, Cuba, Canada, South Africa, Venezuela and Indonesia.

The export volume of synthetic fabrics totaled 134,899,000 square yards during the first three quarters of 1952, compared with 134,814,000 square yards in the similar period of 1951.

Modernization

Capital commitments and expenditures for cotton and rayon mills are estimated at approximately $400,000,000 for 1952, indicative of the fact that the industry is continuing to make substantial progress in its plant modernization and machinery replacement programs in spite of the unfavorable business situation during the first half of the year. An estimated $470,000,000 went into such programs during 1951.

Most current commitments cover renovation, modernization and expansion, with emphasis on new machinery. Large expenditures have been reported during the year for materials handling equipment, improved lighting, humidifying and ventilating systems, automatic cleaning equipment, power plants and employee welfare facilities.

Hess, Goldsmith Develops New Glass Fabric

A glass fabric which stretches while the yarns remain stable has been developed by Hess, Goldsmith & Co., weaver of glass fabrics, Raymond F. Clark, vice-president of the company's industrial products division, announced recently. Named Form-Fab, the fabric is the first of its kind to be developed, Mr. Clark said. Its primary use will be as a base for reinforced plastics in the low pressure molding of industrial products with compound curves, he continued. No tailoring is required. The material lends itself excellently to applications where pre-forms are now used, he added.

The company forsees its possible use in such end products as wing tips, radomes and heating ducts in the aviation industry; fenders and curved body sections in the automotive industry; curved hull sections in the boat-building industry; helmets for construction and other heavy industry workers; military helmet liners; machine housing; and luggage. Hess, Goldsmith has just placed three different constructions of the fabric in production, Mr. Clark said. These are in thicknesses of .009-inch and .012-inch, both of which come in rolls 250 yards long, and .018-inch which comes in rolls 125 yards long.

The company revealed that tests performed by U. S. Testing Co. on the .012-inch fabric disclosed an average weight of 11.79 ounces per square yard. Strength tests revealed an average breaking load of 567 pounds per inch of width in the warp and 349 pounds per inch of width in the filling.

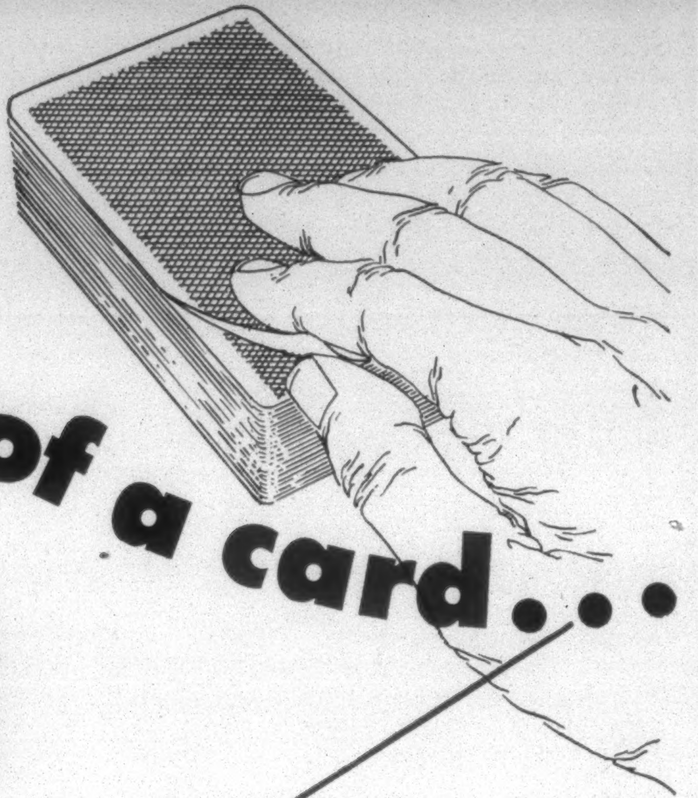
The fabric has up to 70 per cent elongation and equal strength can be obtained in all directions, Mr. Clark said. When laminated with polyester resin, it can be molded into practically any shape or size, with little heat and low pressure. The resulting material can withstand exposure up to 500° F.; is waterproof, airtight; doesn't require painting, and is impervious to most acids and most dilute alkalis, he added.

Time-Saving Design Procedure Reported

A time-saving design procedure that may enable textile manufacturers to design better fabrics is described in a government research report now available, the Office of Technical Services, U. S. Department of Commerce, reported Jan. 19. If certain basic dimensions of a weave are known, a graphic procedure developed by scientists working for the Quartermaster Corps makes it easy to find out the dimensional changes that will be produced in the fabric by changes in the loom settings, and by shrinkage or swelling of the yarn.

A report by these scientists explains this new procedure, gives illustrative examples of its application, and reproduces two charts required for its use.

PB 111,028, *Mechanics of Elastic Performance of Textile Materials—Graphic Analysis of Fabric Geometry,* 33 pages including diagrams, graphs, and tables, mimeo $1. Available from the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C. Enclose check or money order payable to the Treasurer of the United States.



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By ROBERT Z. WALKER

Part 36 – The Ringrail

IN our previous discussions the builder motion of the spinning frame was described together with the types of bobbin builds commonly employed. This subject was explored with a great degree of thoroughness because of the importance of building bobbins which would contain as much yarn as possible without the sacrifice of increased waste due to the snarling caused by overfilled bobbins. In these discussions the builder motion itself, the lifter motion and the builds themselves were analyzed. Next to be taken into consideration are the other assemblies which play a part in the ultimate building of the bobbins. These are the ringrail, the spindle, and the traveler. The first point of concern is the ringrail itself.

The ringrail is supported by lifter rods which are moved by the cross-shafts of the lifter motion. The ringrail carries the rings and travelers and so its movement dictates the exact placement of the yarn upon the bobbin. What are the criteria by which the construction and movement of the ringrail at this point may be judged? First of all, construction should be considered. In older frames ringrails were made of cast iron because of the inability of the manufacturers to produce a rigid rail by any other means. Cast iron rails, however, had several disadvantages, the primary of which was the great weight. This weight necessitated the use of heavier balance weights on the lifter motion and the greater over-all load exerted on the frame required more power and increased over-all wear. In addition, the rails had to be made in short lengths requiring more lifter rods and cross-shafts and in part preventing the use of longer frames without entering into a higher power consumption area.

Early attempts to make the ringrails from other materials were not successful because the ringrail had to be rigid and most lighter metals tended to become distorted. A twisted rail would tilt the rings and this would cause the travelers to run up and down hill, creating excessive traveler wear and uneven tensions upon the yarn. This would cause the spinning of weaker yarn and a higher incidence of ends down per thousand spindle hours. However, as the fabrication of steel became more of an exact science ringrails began to be formed successfully from steel. Steel rails have proved successful and are still used, particularly on the wider gauge frames where ring diameters are so much larger in proportion to the rail metal between the rings.

The latest develpoment has been the use of aluminum ringrails. These prefabricated aluminum rails have proved particularly successful for frames of gauges up to 3½ inches and have the two great advantages of extreme light weight and a minimum of distortion. Therefore, for the modern frame the old problem of producing light, strong ringrails has been completely solved and as a result lighter weights may be used and less power is consumed.

In following through a program of inspecting a spinning frame to insure that all the adjustments are correct, with an ultimate objective of producing the finest quality of yarn with a minimum of ends down, the first inspection point at the ringrail should be to determine if the ringrails are level. To do this, measure from the top of the spindle rail to the top of the ring at each end of each section of rail. If the rail sections are not level they should be leveled by the adjusting screw on the lifter rod shoe. The next step should be to check for levelness across the ringrail. If the ringrail is warped or distorted then it must be leveled in order that the traveler may float in position and not have to run up and down hill. Aligning ringrails requires the use of semi-special equipment plus a certain amount of skill and this should not be attempted by the overhaul crew unless they have had previous experience. Essentially this work consists of twisting the rail until it falls back into a level position.

The sections of ringrail should have a slight clearance between the ends of each section as otherwise they will bind and an unnecessary amount of balance weight will be required. To determine if the rails have the proper clearance the retaining screws should be loosened and the rails should be lifted. If the rails are cleaned during this overhaul they should be removed a frame and a section at a time and scrubbed. It is most important that the sections be replaced in the same order as numbered as they have been individually fitted and numbered by the manufacturer. If the rails bind when they are replaced, and each section is in its proper position, the first check should be to make sure that an accumulation of fly is not causing the binding. As a last resort the ends of the rails may be filed slightly.

The main cause of trouble at the ringrail will be due to binding. One type of binding has already been discussed, and that is if the ends of the sections are bearing upon each other. If the rails still seem to bind and this is not the cause, then the lifter rods should be checked.

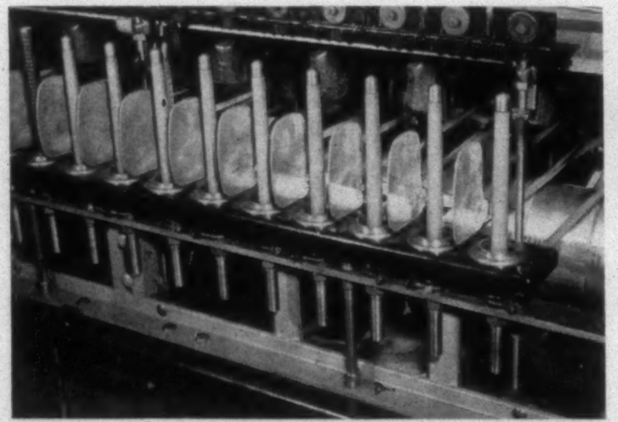
Lifter rods should move freely in their bearings. With the ringrails removed, raise each lifter rod and note whether or not it will drop with the pressure of its own weight. If not, the rods and the bushings should be cleaned. In many instances it will be found that the rods will be coated with an accumulation of old oxidized oil which has hardened and in effect has increased the diameter of the rod. In other instances, and particularly with some types of bushings, fly will have become impacted within the bushing and this will cause binding. The entrance of fly into lifter rod bushings has always been a problem and to date there does not seem to be a permanent satisfactory solution. The most promising answer to this problem has been found to be a bushing which is grooved in a manner similar to the bore of a rifle. The lint entering into this bushing is gradually forced through the lands and grooves by the lifter rod and eventually drops out the bottom. However, tests have not been run on this type of bushing for a sufficient length of time to guarantee its performance. In any case, excessive oiling should be avoided, if the mill feels that oil should be used at all, as oil tends to accumulate and hold lint which will eventually become impacted and cemented together by the oxidized oil. Most bushings are of the oillite type which eliminate the need for any oiling.

In some cases it will be found that the bushings are out of alignment. When this is determined, by bore sighting with the lifter rod, it may be freed by gently tapping with a hammer until it is again centered. Weights should never be added to overcome any difficulties created by binding. After cleaning the lifter rods, bushings and ringrails and assembling the frame, apply foot pressure to the pedal arm and note if a reasonable amount of pressure will lower the ringrail from the top to the lower position. It should not be necessary to apply too much pressure to bring the rail down. If excessive pressure is required this is an indication of binding and its cause should be determined and rectified before proceeding further.

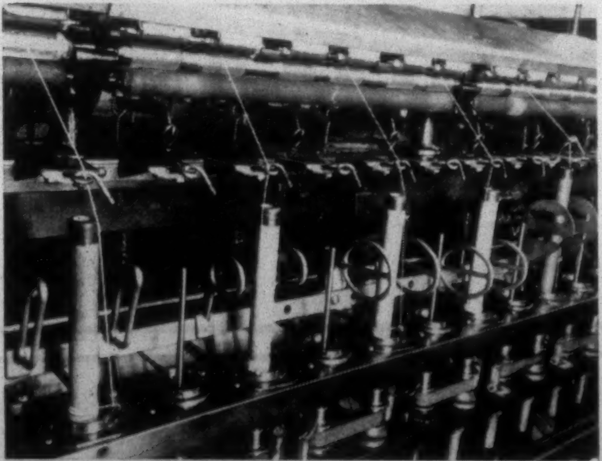
In previous discussions a great deal of stress was laid upon the importance of properly balancing the lifter motion. This proper balance is in its final analysis to be seen in the balance of the ringrail itself. One common fault is to balance the frame with a ringrail having rings installed but not travelers. It is most important that every ring be equipped with a traveler as the weight of the travelers, if added later, will definitely throw the ring out of balance to a significant amount. Balancing must be carried out to prevent exerting undue pressure upon the frame which would cause excessive wear of all parts of the lifter and builder motion.

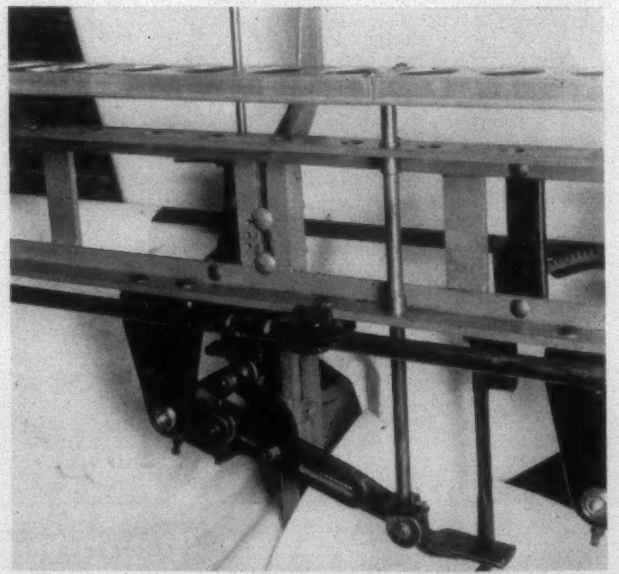
The proper balancing of the ringrail may be obtained by adjusting the relative positions of the balance weights, lifter arms and cross-shaft upright arms. With these parts in their proper relative positions the balance weights should exert the minimum amount of load when the weight is at the top of the traverse and the maximum load when the rail is at the bottom of the traverse. This actually results in a theoretically unbalanced condition.

The relative position of the lifter rods and the lifter rod bushings and the position of the lifter arms will create a freer running rail at the top of the stroke than at the bottom. If the ringrail is not properly balanced or unbalanced correctly, the operator will find it difficult to bring the rail down from the top of the traverse due to the position of the foot pedal. The further down the foot pedal is lowered, the more effective the operator's weight becomes and the rail becomes easier to control. Therefore the object of

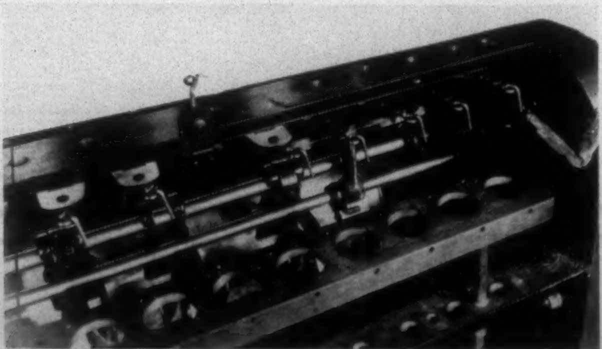


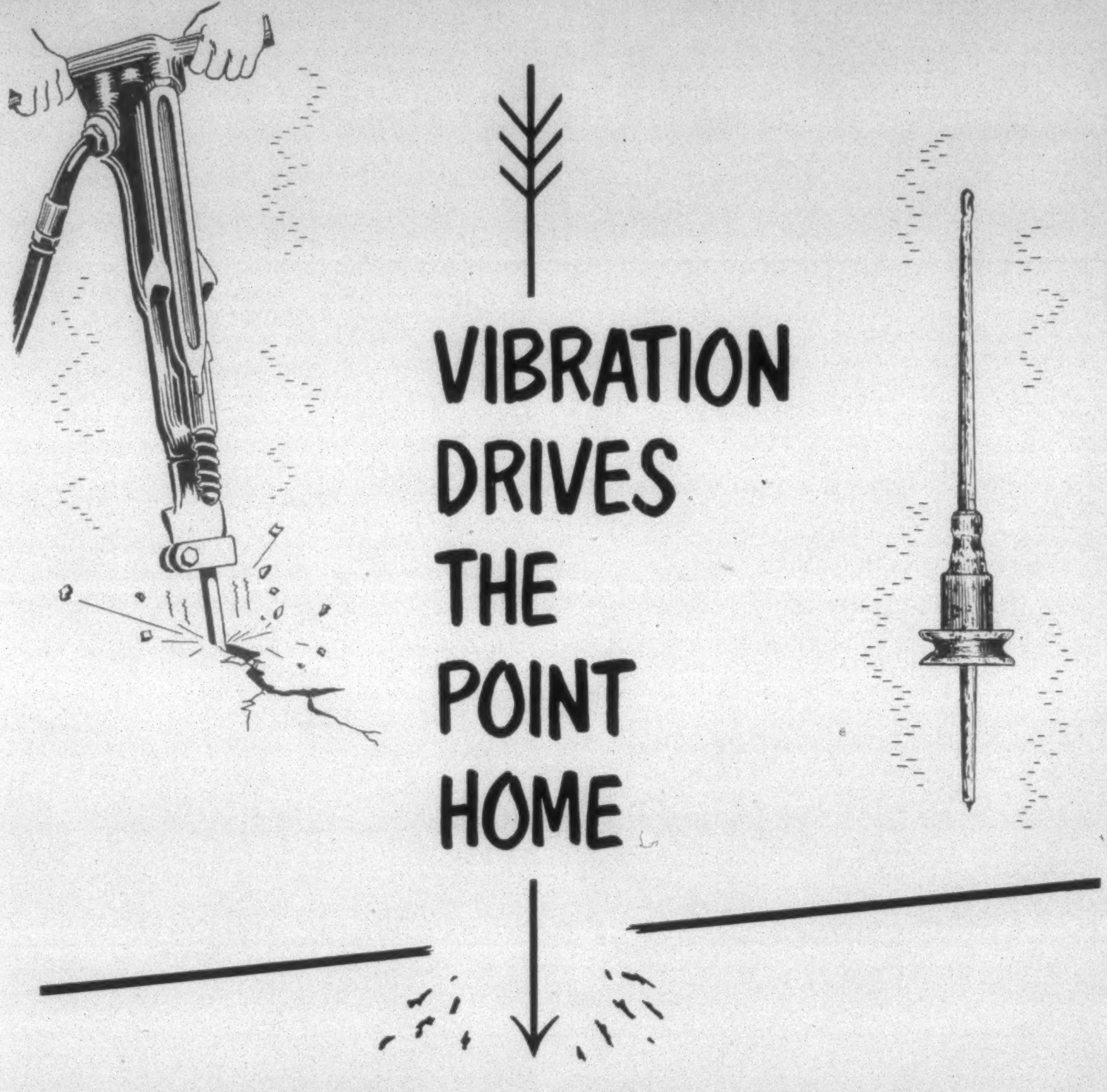
The photograph *above* illustrates a modern frame with Parkerized steel ring rails and lightweight aluminum separators. The photograph *below* was taken in the 1920s to show the styles of separators then available. Note the heavy cast iron ring rail and the types of ring holders which were used at that time.





Contrast the thin, strong ring rail made of aluminum which is used on the modern frame *(above)* with the thick, heavy cast iron rail utilized on the frame built in the 1920s *(below)*.





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balancing, in addition to reducing strain upon the frame to a minimum, becomes a problem of adjusting the weight so as to have the rail sensitive at both top and bottom while still allowing the operator to doff it easily. In balancing, therefore, the weight should have the maximum leverage when the rail is in its proper position and its minimum leverage when the rail is in its lowest position.

No discussion of ringrails would be complete without a few points regarding separators. The best thing that may be said about separators is that they are today a necessary evil. Separators prevent a broken end from lashing over and breaking adjacent ends. They also prevent excessive balloons from two adjacent ends from touching. A third objective of separators is to break up wind currents generated by the rapidly revolving spindles and bobbins, as these wind currents could become a strong force which would blow fly into the yarn, causing excessive ends down. This latter fact has been proven to be of significant importance on some high-speed modern frames where a high percentage of ends down were found to be caused by fly blown into the air and sucked into the balloon by the air current generated by the spindle and bobbin. The fourth reason for having separators is that they permit using larger rings on the same gauge frame. The common rule is to use a ring which is from 1½ to 1¼ inches smaller than the gauge of the frame. However, this cannot be done except by the use of separators.

Separators are not desirable because the whipping of the yarn against the separator blade is apt to weaken the yarn and to lower its fine lustrous appearance, as this action tends to make it become more fuzzy. Separators also add more weight to the frame and necessitate moving the balance weights out to create heavier leverage. They also make doffing more difficult and slow up the doffing operation. Regardless of these disadvantages, however, the modern frame should be equipped with some type of separator.

Spinning frame separators are generally of the Rhodes-Chandler type. In most cases they are made of die cast aluminum blades, as this material is strong, light and not easily breakable. In the last few years there have been many attempts to make separators from synthetic materials such as plastics, but in general these attempts have not been successful. Their failure has been due to the vibration which is set up in any spinning frame but which does not have any effect upon aluminum blades. However, the synthetic or plastic blades tend to become brittle under this vibration and after continued periods begin to crack and splinter. In time, no doubt, plastic blades will be developed that will overcome this difficulty and their relative inexpensiveness and lighter weight should eventually cause them to replace aluminum.

Mills Sponsor Research Project At School

In a move unprecedented in applied textile research, six Southern textile mills have joined in sponsorship of a $31,000 research project on reducing waste in cotton carding at the School of Textiles, North Carolina State College, it was announced this month by William A. Newell, research co-ordinator of the school. The School of Textiles did not release the list of mills contributing to the fund although it was indicated that the list includes "some of the largest and most progressive mills in the South."

Mr. Newell said the project, to be started immediately, is based on "a by-product of the recent three-year research project on nep reduction carried out at the School of Textiles." During this project a method was discovered by which it is believed card waste can be reduced by at least one-third. The objective of the research project will be to explore fully the application of the method developed on a wide range of cotton varieties and staple lengths.

Mr. Newell said "it is also anticipated that greater knowledge than ever available previously about the flats-to-cylinder carding action will be produced in the research project. It is conservatively estimated that if the method can be successfully developed, the potential savings to the cotton textile industry as a whole will be 125,000 bales of cotton per year. It is also estimated that the savings to textile mills can be $2,000 for every 1,000 bales of cotton processed"

Mr. Newell further stated that "the textile industry as a whole owed a tribute to the six mills sponsoring the research project as they have agreed to the public release of the final report on the research some time after its completion."

The School of Textiles at State College requested the release of the information developed because of its status as a state institution set up to further the progress and prosperity of the textile industry. It is estimated that the time required to complete the work will be two years.

The waste-reduction research project will be directed by J. F. Bogdan, director of processing research of the School of Textiles.

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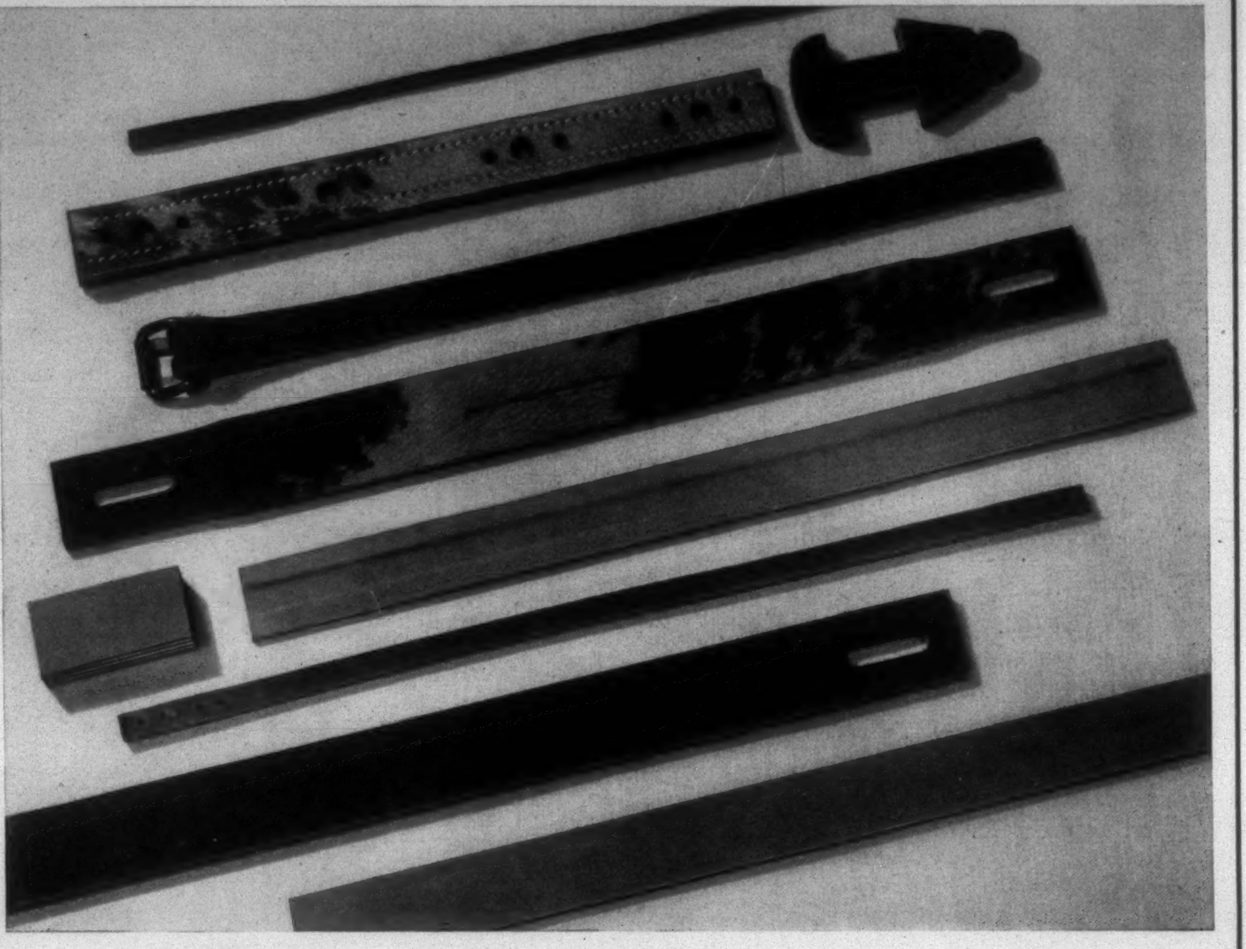

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Warp Preparation & Weaving

Appraising Loom Operation By Research Methods

By VICTOR SEPAVICH, Supervisor of Engineering Research, Crompton & Knowles Loom Works

FOR years the 4 x 1 box loom has been the standard loom in the production of most woolen and worsted fabrics. This machine was used not only for fancy patterns but also for mixing filling to overcome undesirable shady effects that were obtained on fabrics that were woven with a single color of filling in a single shuttle loom.

With the advent of blended yarns, more and more emphasis has been placed by the textile industry on filling mixing in fabrics made with a single color or type of filling. At the same time emphasis has been placed on low production costs for this type of fabric. For these reasons the standard 4 x 1 box loom was found to be both adequate and inadequate—adequate from the standpoint of the technical operation of filling mixing but inadequate from the standpoint of economy of operation. Briefly, it was too much loom for the job to be done.

Market surveys and discussions with leading manufacturers of woolens, worsteds, and blended fabrics, showed that a new loom particularly suited to this class of goods should be made available. By confining its use to a single color of filling, many simplifications of mechanism were made possible. To insure that this machine would be capable of operating at higher speeds with greater productivity, require less maintenance, and greatly increase the number of looms per weaver that could be operated, a rather comprehensive engineering evaluation program had to be carried out. Those mechanisms that were limited in their speed of operation had to be re-designed and changed; while those mechanisms that were retained and were not found to limit the speed of operation had to be carefully investigated and made as simple as possible to insure freedom from maintenance. Obviously, a program of this type requires an expenditure of a tremendous amount of research facilities that have to be, of necessity, spread over a fairly long period of time.

In order to make the loom as simple as possible it was decided to limit the loom to one color of filling, to be mixed on a 2 x 1 box basis, and to handle only a maximum of eight harnesses from a cam operated source capable of producing patterns requiring four-pick, five-pick, or six-pick repeats. It was appreciated that a loom without a superstructure would allow the weave room personnel the maximum uninterrupted visibility and, accordingly, this loom has no superstructure at all. With this simplification in shedding mechanism and simplicity of filling replenishment, a much higher loom speed could be secured. This called for considerable investigation and changes in the basic mechanisms or working parts of the picking and checking motion, since it would be obviously necessary to be able to control shuttle speeds of much higher velocity than those currently in operation on regular looms. Because of higher speeds of operation, loom inertias and energy requirements of various loom elements were carefully investigated.

To build a loom embodying all of these features, it was necessary to devote considerable engineering effort to the task. The entire operation of not only the loom itself, but also its function as a part of the group within the weave room, had to be carefully evaluated. Embarking upon a program as encompassing as this was no small undertaking. Each step taken in the program had to be well considered and its effect upon the whole development had to be carefully weighed. As a final evaluation of the engineer's effort, the cost of operation, the cost of maintenance, and efficiency of production become yardsticks of measurement. Obviously, no development will survive if it fails in any of these categories. It is a well-known fact that the speed of a loom is primarily limited by the maximum speed at which the shuttles can be accurately controlled. These tests showed that with conventional pivoted binders, the checking of the shuttle is performed in jerky steps. At the time that initial contact is made between the shuttle and the binder surface, a very rapid exchange of energy between the moving shuttle and the stationary binder takes place with the result that the binder is immediately thrown to its maximum outward position. In moving to this extreme position, the contact between the binder surface and the shuttle surface is lost and the shuttle continues on into the box until the binder returns once more to contact position. However, since the shuttle has now entered further into the box there is less shuttle travel available during which the binder can act upon the shuttle. The result is that the shuttle strikes the picker long before its velocity has been sufficiently reduced. It was found that on the average a shuttle being checked in this fashion could be reduced in velocity by about 40 per cent through the operation of the binders, with the remaining 60 per cent of its velocity being removed by the picker. Obviously, this form of checking the shuttle wherein the picker is required to absorb a high percentage of the energy, and that on an impact basis, is not conducive to long picker life. Theoretically, the shuttle should contact the surface of the binder upon entering the box, and as the shuttle enters deeper into the box the friction between the binder and shuttle will correspondingly increase and shuttle speed will be gradually lowered. In this manner, the shuttle can be brought to a smooth stop with very little energy left in it at the time it contacts the picker for its final positioning in the box. Actually, we find that this is not so.

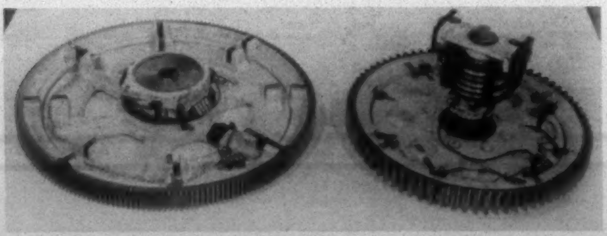
A careful analysis of the way in which a shuttle is checked by pivoted binders is in order. If we were to construct a theoretical stopping curve of a shuttle showing how its velocity is diminished as it enters the box, we would find a very smooth slope of this curve showing up after the initial contact with the binder. No abrupt sharp changes in velocity would take place. Under the influence of a continually applied, constantly increasing friction force, the shuttle deceleration would be easy and even with no hesitation or abrupt action such as is encountered on impact taking place.

However, the actual curve is quite different from this theoretical curve. As the shuttle entering the box first strikes the binder, a sharp change in shuttle velocity takes place. The shuttle velocity drops by about 20 per cent in a few thousandths of a second. Also, the energy in the shuttle has been lowered by about 40 per cent. Thus, in the brief time interval of a few thousandths of a second, the shuttle has given up one-fifth of its velocity and two-fifths of its energy. Under ideal conditions, this would have required a time interval from five to ten times as long. Stated differently, if this initial sudden stopping rate were continuously applied the shuttle would have been stopped in less than one-quarter of its normal checking travel. The shuttle then continues without any change in velocity until it is about one-third of the way in the box, at which time a fairly smooth slope starts to set into the velocity curve shape. Since, however, the shuttle is now nearer to its final position, the slope is necessarily steeper than the theoretical one and the length of this uniform slope is of comparatively short duration as the shuttle now strikes the picker and another sharp deceleration takes place.

It can readily be appreciated from this discussion that the filling on the bobbin is having very high sloughing forces exerted upon it for whenever the shuttle velocity is abruptly changed, the forces tending to shell the filling off the bobbin also are greatly increased. Even if actual sloughing is prevented by heavy furring, it is still likely that a slight separation of filling, particularly on the build of the bobbin may have taken place which could very easily result in a kink of the filling that could be broken on the following pick.

Another fault that could easily result by the striking of the shuttle upon the binder during initial contact could result in throwing the outer end of the shuttle out of line, thereby causing the shuttle to "fishtail" during its checking progress. This action likewise imposes heavy strains on many types of filling, particularly filament yarns, that could lead to filling breaks.

Because the picker contacts the shuttle before its velocity is appreciably spent, heavy loads are imposed upon the picker. A very noticeable effect of having so much of the energy absorbed by the picker showed up in the condition of the shuttle points. These points were always warm and in some cases became so hot that it was almost impossible to take hold of them by the fingers.



Specially-made bottom shaft gears and motor gears were used to measure the instantaneous torque demands of the loom.

Coupled with this shuttle checking problem is the one of picking. If a shuttle is to be properly checked, it has to first be properly picked. A shuttle that starts its travel with varying amounts of energy, or inaccurate line of flight will not be easily and accurately checked, pick after pick. A true line of flight, a constantly repeated acceleration pattern, a minimum variation in kinetic energy will all ensure its correct arrival and timing relative to the check.

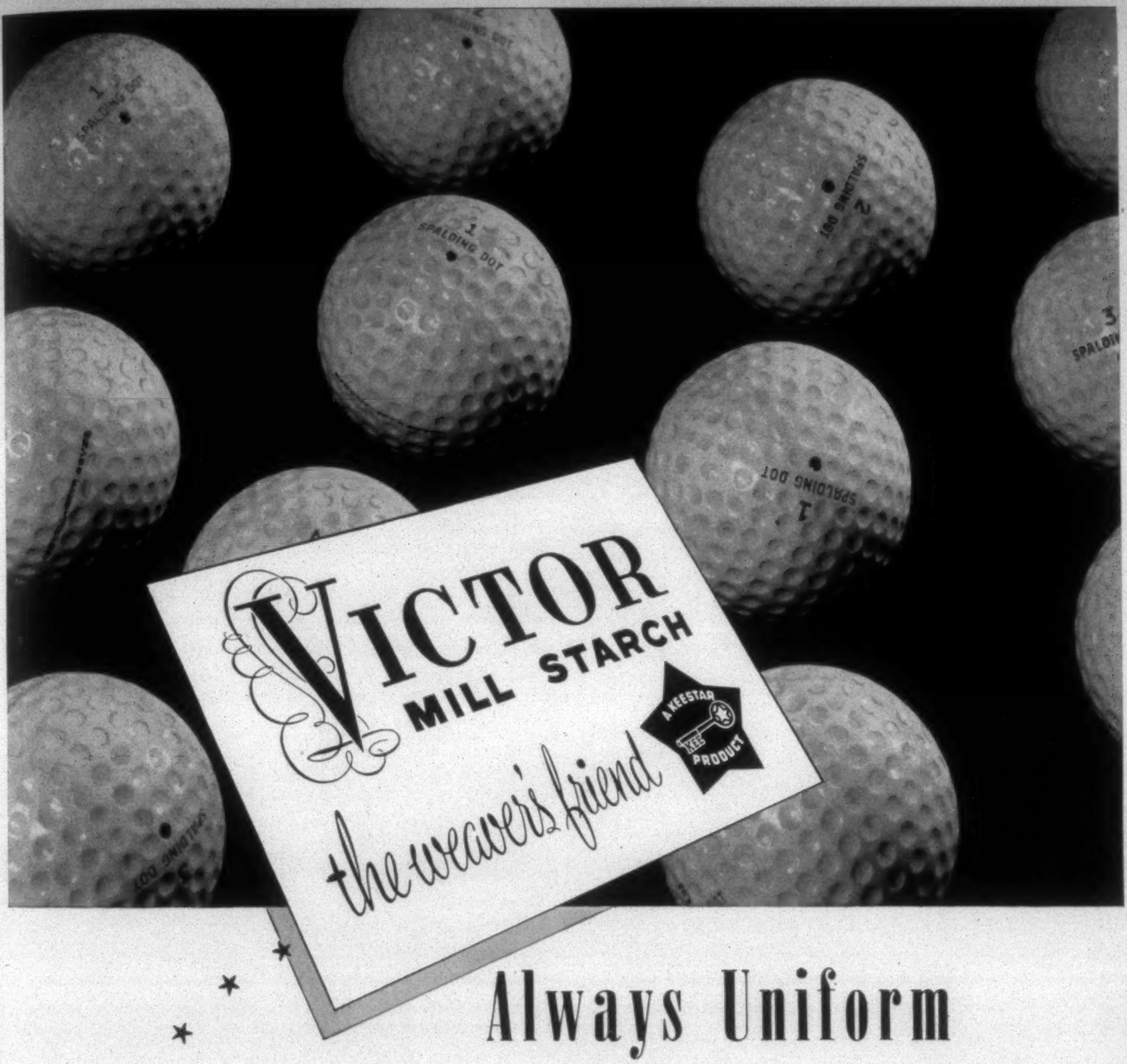
After this data was assembled, the solution was not long in coming. A binder exerting sufficient retarding effect, without requiring it to be placed in motion was developed. Because the binder no longer moved, no abrupt transfer of energy upon contact with the shuttle was needed. By a steady application of this retarding effect, without any hesitation, the shuttle is smoothly and evenly braked to a stop. Instead of striking the picker at the end of its travel with a large amount of energy still present, the shuttle is now allowed to contact the picker with only enough of a blow to accurately position itself within the box. The amount of energy varies from an empty bobbin condition when it is practically nil to a slightly higher amount when the bobbin is full. In other words the only energy left in the shuttle after its checking by the binder is the variation required by the weight of the yarn on the bobbin. Under this type of checking action the shuttle tips showed no heating at all. In fact, the curve of velocity versus time under these conditions very closely approximated the theoretical shape. Accordingly, sloughing effects and the like were now greatly eliminated and far less trouble from broken filling from this cause resulted.

During the pick, a similar beneficial result appeared. By relaxing the pressure exerted during the check to a gentle holding action and by maintaining a parallel guide for the shuttle during acceleration a true trajectory resulted with a minimum variation in kinetic energy during successive picks.

Naturally, as a result of these improvements and refinements in the picking and checking mechanisms of the shuttle, it now became possible to operate the shuttle at much higher speeds. This meant that the driving elements of the loom, as well as the inherent torque capacity of the motor became important considerations. To facilitate this phase of the investigation, specially made bottom shaft gears and motor gears, incorporating strain gauge elements, were made so as to accurately measure the instantaneous torque demands of the loom. A photograph of the actual gears used during this investigation is included. Strain gauges were attached on small steel coupling elements which tend to bend under application of forces to the gears themselves, and all of the torque transmitted by the gears is thereby recorded.

Also during this same investigation, a specially constructed sweep arm was used on which strain gauges were attached to measure the actual pull being exerted upon the picker stick during the accelerating period of the shuttle.

Completing the set-up for this investigation, a three-phase watt galvanometer element was used to record the instantaneous watts input to the motor, as well as an accurate displacement indicator showing the crankshaft position at all times during the test. With the aid of these various elements, a complete picture of the torque distribution, the



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With the aid of these measuring devices, a great deal of pertinent data relative to the drive and the various power components of the loom was obtained. No attempt will be made at this time to completely list all of the data thus obtained since this would be too large an undertaking for a discussion of this kind. Only the high points will be covered.

It was determined that as the loom speed was gradually increased, the reliability and sensitivity of the picking motion decreased when a standard loom motor with no additional flywheel help was used. If additional flywheel were employed, then the picking would smooth out and would show no loss of efficiency of operation with increased loom speed. At first it was thought that the reason why the additional flywheel effect added to the motor was because of greater instantaneous torques being made available at the time of picking and was thereby contributing to the better operation of the loom at these higher speeds. This did not prove to be the reason. The increased motor WK^2 contributed little to the instantaneous torque increase at the time of pick. As a matter of fact, the instantaneous torque delivered through the motor gear showed no increase at all. The trace of the motor gear torque showed a very peculiar characteristic occurring at the time the picking load was imposed on the power demand of the motor. It showed that the peak torque would rise to a peak value and then it would level off at this value until the pick was completed. It made no difference how much additional WK^2 was added as to how high this peak torque would be. It always remained the same.

A closer investigation showed that this peak torque value was the value at which the clutch itself would slip. In other words, with a given clutch pressure setting, once this peak torque exceeded the ability of the clutch to transmit it, the clutch would slip and not transmit any more torque than its setting allowed it to do.

The question then naturally followed: "What was it that was contributing to the smoother and more efficient picking of the loom with the added WK^2?" By combining high-speed camera analysis with the oscillographic analysis, it was determined that, actually, the greatest contribution made by the WK^2 was in maintaining the instantaneous speed of the loom during its periods of peak power demands. In other words, if the loom speed could be maintained more closely to its average speed at all times, then any additional loading such as that imposed by picking would not affect the operation of that particular mechanism.

At first it might be assumed that the more WK^2 that is added, the increasingly better the loom performance will be. This might well be true if the various loom components would be changed to agree with their operation under these higher energy source conditions. However, where the picking mechanism has been made to operate under certain speed changes under regular conditions, it is only necessary to add that amount of WK^2 as will insure the system's operating around the same balance point.

As motor energy storage is increased, certain other items of the loom's operation are not correspondingly benefited thereby. For example, an increase in motor WK^2 means that the motor gear teeth are correspondingly required to assume greater loads, particularly during the time the loom is approaching front and back center positions. It is at this time the WK^2 of the motor is being transmitted to the loom in an attempt to prevent the motor from regenerating with the result that the motor gear and pinion gear teeth are loaded on the back side of the tooth. If the mesh between these two gears is not carefully made and there is an appreciable amount of backlash, then this could conceivably result in premature wear of the teeth of the motor gear. Moreover, pinions that are already considerably worn from other usage should not be engaged with new motor gear teeth since the resulting poor mesh will result in a shorter life of the teeth of the motor gear as well. These are ordinary precautions that are regularly taken, but with the use of WK^2 additions to the motor, these precautions have to be emphasized and carefully observed for good maintenance-free operation.

With better control of picking, checking, and power demands secured, one additional motion received considerable attention. This motion was the harness motion. Obviously, with the loom aimed at the simplest fabrics that are woven, it meant that fewer harnesses had to be employed in its operation. The simplest form of shedding motion, incorporating the fewest harnesses, is the cam type. Of course, elimination of the superstructure meant that these harnesses would have to be operated from underneath. So as to allow the greatest facility in timing and adjustment, as well as pattern selection and spacing of harness, the cam motion was mounted on one end of the loom and connections running from these cams would raise the harnesses from underneath by means of pushing on the harness. The working parts of these connectors run in nylon bearings which eliminates the necessity for oiling maintenance. In order to insure positive return of the harness in the downward direction, pulldown springs are attached to the bottom frames which not only serve to return the harness, but likewise to eliminate lost motion in any of the harness actuating connectors.

As an aid in determining how well this harness motion would operate, as well as making certain that all of the elements used in its operation were designed correctly, high-speed movies and strain gauge anaylses were made of various components of the harness motion. By inserting strain gauges into the harness connections themselves, a more accurate picture of loading forces was obtained. It was found that static loads of harness pull would vary very little from dynamic loads at speeds below 130 picks per minute. However, as speeds of operation were steadily increased above this level, the dynamic loads likewise increased at an accelerated ratio over the static component until, at approximately 200 picks per minute, the dynamic load is actually double the static load. This means that if a harness pull of 100 pounds is measured under static conditions, this same harness pull can be expected up to approximately 130 picks per minute. At approximately 200 picks per minute, the pull actually exerted in the operating loom is 200 pounds even though the statically-measured load is only 100 pounds.

With knowledge like this, the proper design of harness levers, types and numbers of pulldown springs, loadings on harness rolls, and the like can be easily taken care of and proper operations easily secured. With a desire toward insuring maximum freedom to the shuttle during its travel through the shed, a harness opening based upon a 60 per cent timing relative to the crankshaft rotation was selected. With this timing of the harness motion, minimum strains are imposed upon the warp threads, less variation in shuttle flight is secured, and warp breaks are correspondingly reduced.

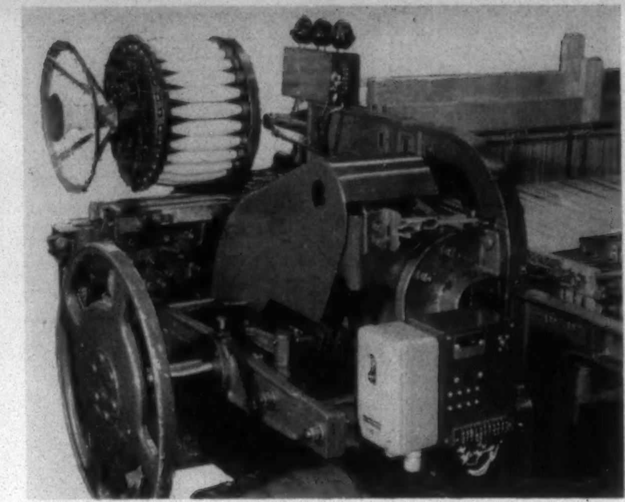
Important as these developments are towards insuring higher speeds of operation with lower maintenance, they alone will not make for tremendous savings in operating economy. The quality of the woven fabric has to be improved. One of the basic loom motions having a very important part in determining this quality is the filling stop motion. Experience showed that a carefully set and adjusted center stop motion would operate quite successfully in stopping the loom whenever a break in the filling occurred within the shed of the fabric.

However, the problem of properly maintaining this adjustment of the center stop motion to insure its continuing reliability under extended service should be overcome. As is well known, this form of center stop motion consists of feeler fingers which are raised through the warp shed until the shuttle passes and are then allowed to drop down on the trailing filling to detect whether or not this filling has become broken or is slackened in any way. If there is no filling at all, the wires will drop completely through the shed without any difficulty. If the filling has broken after the shuttle has passed the location of these center stop feeler wires, then the slackness in the filling will allow the feeler forks to drop to a lower than normal position. As the lay moves in its direction towards the front of the loom after the passage of the shuttle, these feeler wires are guided downward through the fabric by means of a spring-tensioned dagger riding on the surface of the cam. This dagger would continue to ride down the surface of this cam and, at the bottom of its travel, engage a protruding edge of a knockoff lever, if the filling is absent under the wires or if it has become slackened due to a break farther along its travel. When there is no filling at all under the feeler wires, the engagement between this dagger and lever is very positive and the stopping of the loom is easily obtained. However, when the break in the filling occurs at some distance away from the location of the wires, then the wires are partly supported by the filling resting underneath them and the engagement between the dagger and the lever is not always positive enough to insure a mechanical stopping of the loom.

High-speed movies show that under these conditions, it frequently happens that the engagement between the dagger and the knockoff lever is secured at the very tip of the lever which succeeds only in momentarily moving the lever for a short distance. The distance that the lever moves may be so short that it is insufficient to complete the stopping of the loom before the engagement between the dagger and lever is broken. The result is a failure of the loom to properly stop on a broken pick.

During these tests this same temporary and short engagement was observed whenever the shuttle tension was slackened due to faulty furring or tensioning of filling within the shuttle. It is readily appreciated that under many conditions of operation a slackening or loss of filling tension will result in kinks in the fabric.

It was felt that if any wear appeared on the knockoff lever at its operating tip, this would likewise impair its operation. For this reason the upper edge of the lever was deliberately rounded during these experiments with progressively increasing degrees of roundness employed. Whereas a mechanically sound lever, with its leading edge square, detected filling breaks throughout the entire weaving shed without any trouble, it was found that a slight roundness of this tip quickly lowered the efficiency of the knockoff, as well as its continued reliability of operation.



This loom, by use of a light which goes on whenever a protection or bang-off takes place, indicates the need for a loomfixer's attention.

However, one fact became well established. Even with a rounding of this edge, the contact between the dagger and the lever was sufficient to move the lever an appreciable amount. It then became quite apparent that if this movement of the knockoff lever could be transferred into an indication which could operate to stop the loom, then any failure of the normal mechanical knockoff motion to carry out its intended function could be easily detected by this auxiliary indication and faulty operation of the loom under these conditions could be greatly minimized. Such an auxiliary indication was obtained by means of setting a microswitch so that any movement of the lever would actuate this switch and the indication thereby obtained could be useful in stopping the loom.

In order to complete this auxiliary indication, it was necessary to differentiate between the normally executed knockoff and one wherein the movement of the knockoff lever was insufficient for normal knocking off operation. This part of the indication was taken care of by utilizing another microswitch of the reset type that would operate only if the knockoff lever completed its normal required motion. Thus, by combining the operation of these two switches with the movement of the lever, an indication is obtained every time a contact is made with the knockoff dagger and lever. If this contact results in a positive mechanical knockoff operation, then the stored indication in the first-mentioned switch is not used and the loom is stopped in a normal fashion. If, however, the contact between the dagger and lever is insufficient to insure a positive mechanical knockoff, this stored indication is retained in the first-discussed switch and is then translated into a stopping of the loom by electrical means through the warp stop motion of the loom itself.

In the first case, wherein a normal knockoff takes place the loom stops with the shed open on the broken pick. In the second case, where the loom stops through the use of the indication of the microswitch the loom stops with the shed closed on the broken pick. In either case, the loom stops whenever an indication is obtained between the knockoff dog and lever, irrespective of how short in duration this contact may be.

Coupled with the use of this auxiliary electrical indication of the center stop motion were other electrical innovations which were introduced into this particular loom design to further increase its reliability of operation and to reduce manual attention. To be sure, the electrical warp stop motion is not new but its coupling with a center stop indication is new. How these various electrical devices operate, what their functional duties are, and how they insure more reliable loom operation will now be discussed.

The electrical stop motion hardly requires any discussion since its use is well established and is familiar to all. Whenever a warp break occurs, the indication is stored by a quick-acting relay and the loom is stopped at its preselected position by the warp stop knockoff mechanism. When the loom comes to rest an amber signal light remains illuminated, thereby indicating the reason for stoppage and acting as an aid in locating the place where the warp break occurred. If a filling break occurs and the loom stops through the normal knockoff mechanism of the center stop motion, then a green-colored signal light is illuminated. This indicates a normal stopping of the loom through the operation of the mechanical center stop motion of the loom. However, if the loom is stopped through the operation of the auxiliary electrical knockoff of the center stop motion, both the green and the amber signal lights will be on together, thereby indicating that it was the warp stop that knocked the loom off because of some failure of the filling in the loom.

There is one important difference between the loom being stopped in this fashion and being stopped through the regular stopping means. Whenever the two lights are on together, it means that for some reason the normal operation of the mechanical center stop motion is not being carried out completely. It could mean that mechanical adjustment or setting is required of the motion or it could mean that filling tension itself has become too slack and the shuttle or eye require some attention. It should act as a distinct warning to the operator to have these probable causes investigated and the correct remedy applied. If this is done faithfully, then the loom will operate with a minimum chance of trouble from broken or slack picks or broken or slack warp ends. It will thereby contribute directly towards insuring continued high quality production.

There is still another signal light employed on this loom. A red signal light is illuminated whenever a protection or bang-off of the loom takes place. This light is primarily intended to be a fixer's signal. It is intended to convey a signal to the fixer that the normal operation of this loom has been impaired and that most likely some mechanical attention is demanded of him to return it to useful operation. In the past it has been the function of the weaver to signal the need of a fixer's help. With the use of this red signal light it will now be the function of the loom itself to signal for the fixer's attention. This helps in several ways. With the great increase in weavers' loads that this loom indicates it will be possible to operate, it will insure a minimum of waiting time before the loom is returned to useful operation. When a weaver is tending a larger number of looms, one of the looms that he has passed may protect and will remain standing until the weaver returns to this loom, at which time he will not only notice that it has stopped through protection operation of the loom but also will endeavor to ascertain the reason therefor. Both of these actions on the part of the weaver mean that valuable time is lost in caring for other looms in his set that may have stopped through more casual operations such as the center stop and filling stop mechanisms.

This red signal light also can be employed on this loom more reliably to indicate the need of a fixer's attention since the shuttle control is now more positively maintained and the chances of rebounding shuttles causing loom stoppage are practically eliminated. In this way the direct signaling of the need of a fixer's attention should not add to his load since many of the stops that normally require bang-off on the part of the loom have been eliminated and the chances are more than good that a bang-off will require the fixer's attention, which he can now supply with a minimum of waiting time on the part of the loom. Here again, this signal light should add to the efficiency of operation.

When a shuttle is operating at around 40 feet per second velocity, it is not too much of a chore for the loom operator to stop both the shuttle and the lay at any desired position by simply throwing the handles to an "off" position manually. However, as the shuttle speed is increased to 60 feet per second or better, this operation may very readily become a little difficult. In order to facilitate the correct stopping of the loom by manual means, a stop button is incorporated with the electrical control which the operator need only to press at any time during the loom's operation and the loom will automatically stop in the correct position. This stop button not only performs this function very reliably but also acts as a reset button to restore the signal lights to their normal operation whenever the loom has been stopped by means of the auxiliary electrical function of the center stop motion.

As with all new ideas and developments, time is required to fully prove their value. In order to bridge this gap as quickly as possible, this loom has been in operation for nearly a year, during which time it has operated on as nearly a three-shift, around-the-clock basis as possible. Various types of yarns have been experimented with and the results of these operations have formed a fairly reliable background with which future operation can be more accurately estimated. During that time it has been learned that practically any type of yarn will perform very nicely in this loom. Even under the high shuttle speeds and faster loom operation, it is not necessary that yarns possess extraordinary characteristics of strength. Continued operation may alter this but past performance has indicated that any commercially used good quality yarn will operate quite satisfactorily.

In developing this loom many requirements have been imposed upon the engineer. Full use has been made of the latest research methods utilizing high-speed cameras, strain gauges, and instantaneously-recording oscillographs. Designs based on functional mechanics have been more widely utilized. By carefully appraising loom operation through research methods, a faster operating, more efficient, better producing loom with maximum anticipated maintenance and simplified mechanisms has been developed.

Mr. Sepavich's presentation was made at the textile session of the annual American Society of Mechanical Engineers meeting in New York City Dec. 5.

Georgia Supervisors Discuss Slasher Operation And Maintenance

By HARWELL HOWARD

A THOROUGH discussion of slashing which touched on such subjects as slasher squeeze rolls and their maintenance, use of lease strings, selvage control, use of wet split, homogenizers, preparation of thin-boiling starches, control and maintenance, constituted the first part of last Fall's meeting of the Textile Operating Executives of Georgia. The warp preparation discussion was led by George McMillan, superintendent of the 1,343-loom plant of Crystal Springs Bleachery at Chickamauga.

While all of the reports below were not brought up for discussion during the meeting because of time limitations, they were submitted in answer to questions sent the mill supervisors prior to the Atlanta gathering. (*Note:* A report on the second half of the meeting, dealing with weaving, will be carried in the February issue of this journal.)

Squeeze Rolls

The initial discussion, dealing with slasher squeeze rolls, posed the question of what experience operators had had with rubber or synthetic-covered delivery rolls on slashers, and asked whether they had had trouble with roll swelling when it came in contact with the yarn. Mills were asked to give the yarn number and total ends in the warp, and to tell whether cotton or synthetic yarn was used. Mill C, using 6s to 34s yarns, 3,000 to 8,700 ends on cotton alone, reported no trouble with roll swelling, and said synthetic-covered rolls had never been tried because the mill started experiments with cork and found it so satisfactory that nothing else was tried. Mill E reported it had four slashers equipped with synthetic-covered delivery rolls, and had them buffed about twice a year. Yarn was listed as 23.6s, 2,678 ends, cotton. No trouble with swelling was reported. Mill V, which reported it had been using a rubber-covered back roll for two years, did report that the roll swells and also blisters. It uses 8s to 20s cotton, 450 to 2,400 ends.

In another question on slasher squeeze rolls, executives were asked, in connection with covering yarn-wound size squeeze rolls, to describe the routine used when covering from the bare roll, giving yarn combinations. They were also asked to describe the daily winding routine, giving yarn combinations, and to give the maximum amount of yarn that can be put onto the roll before it has to be cut off for replacement. In connection with these points, mills were asked to give the yarn number of warp, total ends of warp, type of yarn, speed of slasher in yards per minute, and the comparative over-all costs and results obtained in using yarn or blankets for squeeze rolls.

Mill E, in covering the roll, used four complete rounds six ends No. 10 brown jute yarn, three rolls eight ends 14s cotton, one round two ends 3/10-1/2-6s all-wool with two ends 14s cotton together, and one complete round two ends 14s cotton. In the winding routine, the mill reported, rolls are covered every 12 hours with a round composed of one end wool and one end cotton, then wrapped down with one round of two ends of cotton. As to maximum amount of yarn before replacement, the mill reported it builds the yarn to the top of the flanges, which are $10\frac{5}{8}$ inches in diameter. On costs and results from using yarn or blankets for squeeze rolls, the mill said it had no experience on blankets, but yarn cost is $7.25 per roll for the original cover, and daily cost per roll is approximately $1.70 per roll, three-shift operation.

Mill F reported it builds up the diameter with jute at the base, then jute and cotton on top with wool and cotton, with yarn numbers of 10s cotton and 2.6 wool. This mill winds with two layers of wool and cotton every 48 hours. Diameter is increased by four inches before replacement. Yarns vary from 8s to 24s, and ends from 1,000 to 6,000 if cotton only. Speed, the mill reported, varies up to 60 yards per minute. The mill said it has not had the wool yarn in long enough to accumulate a sufficient amount of data on costs.

Mill O reported covering the rolls with two layers of jute (two strands No. 10), eight layers of 13s cotton warp, one layer of three-ply $10\frac{1}{2}$ wool with two ends 13s cotton. As for the winding routine, every 30 hours of use the mill applies one layer of one end of wool and two ends of cotton, and one layer of two ends of cotton. The mill fills up to about a half of the $1\frac{1}{2}$-inch end flange before it has to be cut off for replacement. Yarn number of warp was reported as 13.5s to 30s, ends in warp 1,625 to 3,320, cotton yarn, with slasher speed of 90 to 120 yards per minute. The mill's cost in using yarn is a third that of using blankets, it was reported, and the yarn gives a more satisfactory dressing of the warp.

Rust Prevention

On slasher squeeze roll maintenance, the executives were asked how they prevented squeeze rolls from rusting. They were also requested to describe slasher room cleaning schedules and methods for slashers, hoods, cooking kettles, storage kettles and size boxes. As another part of the question, the operators were asked how they kept lint out of the yarn on adjacent slashers when they removed the lint from beneath the slasher and creel.

Mill D reported rust prevention by painting the rolls with white lead whenever starter cloths were changed. Slashers in the mill were cleaned by mopping under the front twice per shift, under the creel at run out, and by blowing the slasher off on week-ends with an air pipe, wiping with waste and mopping underneath. Cooking kettles were drained after each batch of size was cooked, and rinsed with a water hose, scraped and boiled out. Of three storage kettles in operation, two are kept in use while the third is being cleaned. All kettles, said the mill, are cleaned twice each shift, and are boiled with soda ash on week-ends. Size boxes are drained and boiled with clear water after each set runs out. As for lint removal, the mill reported no air hose is used except on weekends. Slasher fronts are mopped underneath twice each shift, and backs are mopped at runout. Mill E said it takes no precaution for rust prevention on the cones of yarn wound rolls. It reported a general cleanup once a week, stopping all slashers, by blowing out flues, blowing off and mopping the hoods, frame and cylinder sides, boiling out the size box, cook kettles and storage kettles. Daily cleanups consist of the blowing and sweeping of floors once per shift. Between sets, floors are swept, head blown out and rib rolls cleaned. Lint is swept out when the other slashers are running.

Mill H reported it prevents rust by painting with white lead. The cleaning schedule consists of blowing off the slasher, hoods, creels, etc., at the change of each set, washing size box out at each set change, and washing the cooking kettles on each batch of size cooked. Storage kettles are washed at the mill every eight hours. The mill reported blowing lint toward the rear of the slasher and creel with low air pressure—about 25 pounds. Mill L covers squeeze rolls with white lead, four yards of 12 per cent duck and six yards of flannel after smoothing them with emery cloth, to prevent rust. Slashers are blown off before each creel and given a thorough cleaning on weekends. Hoods are cleaned every three weeks, cooking and storage kettles at the end of the second shift and the size box after the second shift. As for removing lint, the mill has only two slashers and solves that problem by blowing cotton and loose lint in the opposite direction of the slasher that is running.

Lease Strings

Question No. 3 dealt with the frequency with which lease strings are run, the yarn number, ends in warp, number of section beams, yards per loom beam, and yards per section beam. Mill E said it uses lease strings every third beam, and in the event of trouble when it is suspected of causing ends to get out of lease. Mill F reported it runs a lease string on each loom beam, with yarn numbers varying from 8s to 24s, ends up to 6,000, up to 14 section beams, 14,000 yards per loom beam, 5,000 to 14,000 yards per section beam. Mill H runs a lease string every fourth loom beam, it reported, with 17s yarn, 4,795 ends in warp, 15 section beams, 1,000 yards per loom beam, and 30,000 yards per section beam.

Mill L said that when the mill runs a double set of warps of the same color, a lease string is used on each doff. The strings are also used when the end is down on the slasher. But the strings are run only when the end is down when the mill is running two different colors on the slasher. Mill N reported that its frequency in using lease strings depended on the number of ends in the set and the size of the yarn, and said a string was used on each warp on a set with from 5,000 to 6,000 ends. Yarn used are 16s, with 5,570 ends, 12 section beams, 855 yards per loom beam, and 13,000 yards per section beam.

Selvage Control

Selvage control in slashing was the subject of question number four. The executives were asked how they control the tension of the ply yarn in slashing a warp with single yarn in the body and ply yarn in the selvage. They were further asked about drying the ply yarn properly without over-drying the single yarn, the total ends in body, yarn count in body, total ends in each side of selvage and yarn count in selvage.

Mill C reported running single and ply yarn on the same section beam, picking the selvage on the warper so that it will build up level on the beam. The mill reported no drying problem, since it does not run ply selvage through the size. On yarn count in selvage, the mill runs three sizes of selvages, 22/2, 30/2 and 34/2 ply, which covers the mill's range of selvage requirements. The mill has to vary the way selvage is drawn in harness on very coarse open weaves from the way it is drawn on closer weaves. Mill E said it uses a homemade creel to hold the ply selvage on cones to control the tension of the ply yarn, as well as employing a tension device off an old Cocker warper creel which holds each selvage end between two washers. In drying the yarn, the mill runs the ply selvage around the top cylinder twice. Total ends in each side of selvage is ten, and yarn count 23.6/2.

Mill N reported that it does not have any difficulty with the plied selvage yarn and single yarn having different tension. Plied selvage yarn is added to the warp at the slasher front, not at the back. As a result, the mill doesn't find it necessary to size the plied selvage yarn, and runs it from the creel attached to the frame of the slasher just in front of the hood. The yarn runs from six by six tubes, it was reported, passing from the tube down through an eye board with a porcelain eye which guides it in a straight position through the comb. The result is that the plied yarn and the single yarn are wound on the loom beam with the same tension. This mill has found it unnecessary to size selvage yarn, and thus doesn't have any drying problem.

Mill Q said that tension on ply selvage yarn when run with a single body yarn can be controlled by using a creel for the selvage identical to a Cocker warper creel. Drying is accomplished by spreading the selvage ends across the cylinders so that they aren't congregated together in one spot. Mill Q's figure on total ends in body was 4,476, yarn count 17s, total ends 24 to the side, yarn count in selvage 22/2.

Tension control of the ply yarn at Mill W, according to that mill's report, is accomplished by decreasing the number of ends of ply yarn in the dent in hack. In drying, the mill runs the ply yarn between the squeeze rolls, but doesn't run in under the immersion roll. This mill leaves the proper amount of moisture in the single yarn. The mill reported no difficulty with the ply yarn selvage. It reported total ends in body as 3,344, yarn count in body as 28s, 24 ends in each side of selvage, and yarn count in selvage of 22/2.

Question 4-a called for discussion of precautions taken to prevent selvage from rolling, giving the number of ends in each side of selvage, and whether single or ply selvage is used. Mill D reported using a split roll back of the size box to prevent rolling, and said it uses 14/2 yarn with 18 ends, 12s to 19s with 24-40 ends and 14/2 yarn with 36-40 ends. Mill E runs selvage ends one to a dent on a small comb back of the expansion comb, keeps lease bars slick and contact rolls smooth, keeps beam journals straight and doesn't run selvage so close to the loom beam head that it will pile up. The mill uses ten ends in each side of selvage, with ply selvage. Mill L-1 reported that crooked

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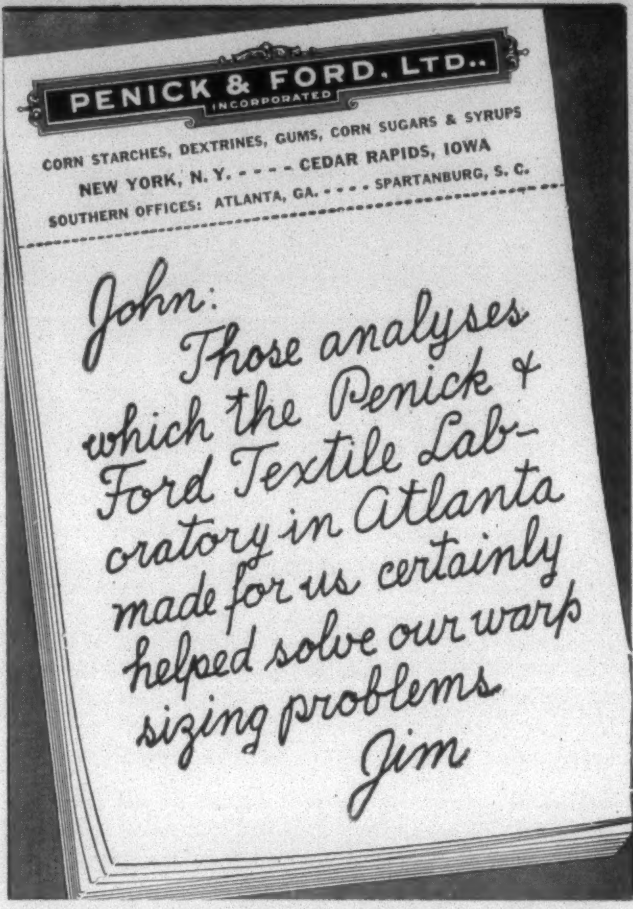

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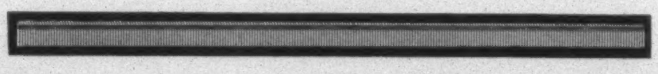

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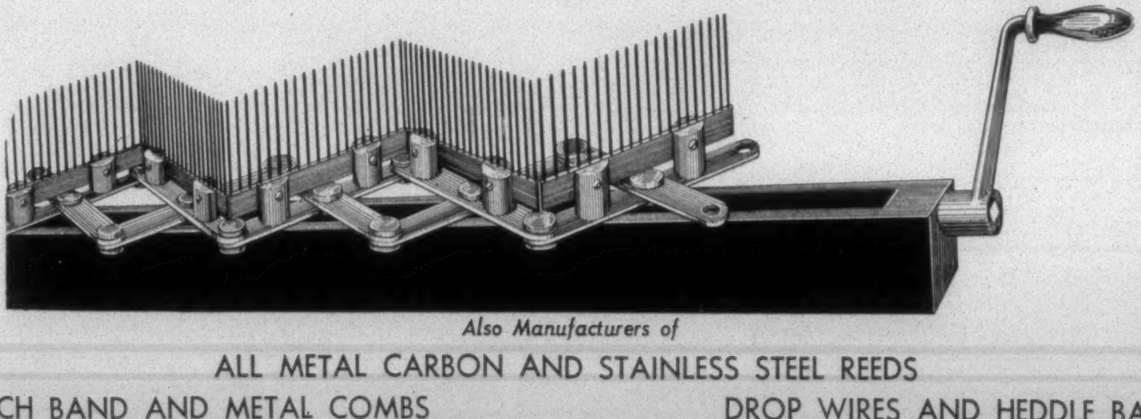

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loom beam journals and untrue heads have been the main trouble in preventing rolling, and it repairs and replaces the journals and heads when they're found to be faulty. The mill uses 16 ends, single yarn.

Mill N produces as good a section beam as possible, it reported, free from crossed ends. The mill doesn't allow the selvage ends to build up next to the head of the section beam, and warned that the section beams should be kept in good condition at all times. The mill said lease rods should be spread to hold the yarn open until it hits the comb to prevent the yarn from rolling, and pointed out that sometimes a bad cover on the slasher delivery roll will cause the selvage ends to roll. The mill uses four to 40 ends in selvage and both single and plied selvage yarn. Mill O suggested preventing the selvage from rolling by using extreme care in warping. This mill uses ten to 12 extra ends on each side of the selvage, with single selvage.

Mill W suggested using drop wires to prevent rolling. By this procedure, it said, if six ends are in the hack, one drop wire is used to split the ends three and three. Thus approximately two-thirds of the ends are split by either hack or drop wire. Twenty-four ends in each side are used by Mill W, with single selvage.

Wet Splits

The fifth question concerned the use of wet splits in slashing. Mill executives were asked if they used the wet splits, and if so to explain how they were constructed, how operated and what difficulties were encountered. Use of a wet split rod made of two-inch stainless steel flattened on one end with a journal and V groove pulley three inches in diameter on the other end was reported by Mill E. The mill said the rod turns in open bearings mounted on adjustable rods at each side of the slasher, and that the rod is positively driven with a belt from a pulley on the finisher squeeze roll, thus splitting the wet sheet in half. As for difficulties, the report said that if the roll doesn't revolve, a size and lint formation will accumulate, then come off on the sheet and make a roller mark that has to be cut out back of the drop wires on the loom. Mill I reported using wet splits on all sets, mounted on slasher frame between the size box and back cylinder. Each is equipped with a one-inch roller, with a ball bearing on each end. The mill said a four-inch pulley on end of the roller driven from a four-inch pulley on the size roller runs with a one-inch belt. The roller splits half of the section beams. The mill said it has experienced no trouble with this.

Homogenizers

Homogenizers came in for discussion next. The mills were asked what experience they had had with homogenizers, types of homogenizers used, total ends in warp, and yarn number. Some nine other parts to this topic dealt with whether less starch per gallon can be used while maintaining a uniform size content in the warp; size formulas before and after installing homogenizers; whether there is a noticeable decrease or increase in shedding at the slasher and looms; whether the size content of warps is more uniform; the amount of maintenance required on the homogenizer and how much it costs; whether homogenization can cause a change in the size pick-up, using size with the same viscosity; the relative advantages of the unit equipped with heat exchanger and the conventional homogenizer; the longest period of time homogenized starch can be held before it is used, and whether the size is agitated during the holding period—and if so, the speed and temperature.

Mill E reported using a 300-gallon per hour Gaulin homogenizer. The mill said less starch is required. Size formula before homogenizer installation was 16.96 ounce thin-boil per finished gallon, 5.5 per cent compound (50 per cent fat) based on weight of starch defoamer. After installation: 14.6 ounce pearl per finished gallon, 7.5 per cent compound (50 per cent fat) based on weight of starch defoamer. No increase or decrease in shedding was reported, with no proof of increased uniformity in size content of warps. As for maintenance, the mill said, homogenizer valves are lapped weekly, plunger packing replaced when necessary, broken homogenizer valves replaced, and oil changed as needed—all of this at a cost of about 65 cents per month per machine. The mill said it doesn't hold homogenized starch more than three hours if it can be helped, and that the size is agitated at 200° F., 20 r.p.m.

Mill F said it is using a Scott & Williams homogenizer, with no less starch per gallon used. Size formula before installation was 200 pounds of starch, 20 pounds tallow, mixed with 300 gallons of water and cooked 45 to 60 minutes at 216 to 212°. With homogenizer, the formula is 200 pounds pearl starch, 24 pounds of liquid size, mixed with 300 gallons of water for 15 minutes. The mill reported no change in shedding, but said size content of warps is more uniform because it is not stored, thus diluting the size. Very little maintenance has been required, the report said, and homogenization hasn't caused a noticeable change in the size pick-up, since viscosity is the same. The size is agitated during the holding period at this mill, at 185°, 24 r.p.m.

Mill T reported using Gaulin 300 to 400 T.E. homogenizers, 1,996 to 5,800 ends in warp, 16s and 14.5s yarn, with less starch per gallon required. Old size formula was given as 210 pounds starch (thin-boiling), 21 pounds compound, ten pounds of wax and 123 gallons of water. The new formula embraces the use of the same weight of pearl starch, with the only other change being one pound less of compound. The mill reported an increase in shedding, and said size content of warps seems to be about the same. Where maintenance is concerned, the mill hasn't found it necessary to increase its force to service the two homogenizers, giving the maintenance duties to the size man except in the case of a breakdown of oil change, in which case the fixer takes over. The mill said a change in the size pick-up will occur if the pressure isn't closely watched, but otherwise it han't noticed any difference. The mill never holds homogenized starch longer than 24 hours. Size is agitated when the mill is in operation, with temperature held at about 204 degrees.

A Manton Gaulin homogenizer is also used at Mill W. The mill said ends in warp vary from 1,000 to 5,500, and the yarn number varies from 12s to 28s. Less starch is required. Size formula before homogenizer was 12.50 ounces per gallon; after installation 11.50 ounces per gallon. No difference was reported in shedding, but the mill said it believes size content of warps is more uniform. Maintenance was described as negligible, with such duties delegated to the size maker: valves are cleaned and checked every 24

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hours. Strainer cleaned every eight hours, taking only 15 or 20 minutes. Slasher fixer works one-half hour after the week-end shutdown cleaning and inspecting valve assembly, suction and discharge valve. Homogenization does cause a change in the size pick-up at this mill, and starch can be held 24 hours, it was reported, without difficulty. Agitation of the size is accomplished at 20 r.p.m., 210°.

Thin-boiling Starches

Question No. 7 dealt with the preparation of thin-boiling starches. The executives were asked what cooking time on thin-boiling starch gives the best results, what speeds are best for running the agitators.

Mill C reported it cooks all thin-boiling starch an hour and a half, bringing it to a boil in 20 minutes and agitating cold before turning on the steam for ten minutes, giving an elapsed cooking time of two hours. Agitation speed at the mill is 52 r.p.m. for cooking kettles, 40 r.p.m. for storage kettles. Mill D reported it brings the size to a boil in 30 minutes and then boils it for one and a half hours. Agitators are run at 37 r.p.m. for cooking kettles, 21 r.p.m. for storage kettles. Mill E reported cooking time of an hour and a half for 40 F. starch, with agitation speeds of 42 r.p.m. for cooking kettles, and 38 r.p.m. for storage kettles. Mill F said the cooking should require 60 minutes, and that the cooking kettle should be run at 45 r.p.m., the storage kettle at 24 r.p.m. Another mill, Mill H, said it brings the starch to a boil in 30 minutes and boils for an hour, with agitation speeds of 42 r.p.m. and 25 r.p.m. respectively for cooking and storage kettles. Boiling time for other mills reporting varied, with such lengths as an hour and 20 minutes, an hour and a half, and an hour and 15 minutes.

Question No. 8 asked the best method of obtaining a uniform size pick-up on yarns of different counts, and from one set to another on the same yarn counts but with a different number of ends. Mill D reported using four yards of blanket on sets of 3,000 ends or less, and eight yards of blanket when ends exceed 3,000. Mill E suggested changing the amount of starch in the formula. Mill F reported using a squeeze roll regulator on the front roll of the dressing roll, and adjusting weight attention by experience and changing viscosity of the size wherever possible.

With a properly balanced size formula, Mill H reported it finds that per cent size pick-up will be about the same on a wide range of numbers and ends per set. Mill N said that to obtain a uniform size pick-up, it's important to keep the size at a constant level in the size box. According to Mill O, if there's enough variation in counts and ends, the mill should change the size formula if necessary to maintain uniformity. Mill Q reported a fairly uniform size pick-up as a result of controlling the slasher speed. Size formulas at its mill, said Mill T, are varied, depending on the construction of the goods. The mill also varies squeeze roll pressure where it is possible.

Control and Maintenance

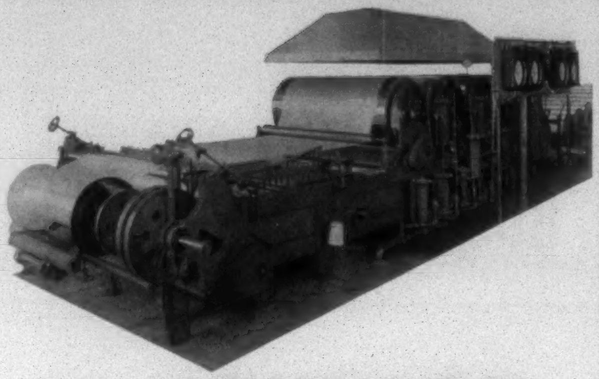
Control and maintenance came under discussion next. The information asked was the best type of size pump to use, and what was the best method to maintain pumps. Mill E reported using the gear type positive displacement pump, with maintenance by replacing the packing and re-working shafts and bearings when worn. Mill F said it uses a Gould 54-gallon-per-minute pump, an expendable pump which can be replaced when worn, rather than repaired. Mill H preferred the rotary type pump, and maintenance at the mill consists of using an extra pump to replace others while they are being overhauled. Mill L-1 uses Saco-Lowell pumps, it reported, and overhauls them as necessary. Mill N expressed a preference for the low-speed, rotary-type pump, reported that the high-speed gear pumps seem to beat the size mixture excessively and break the size down, resulting in a decrease in viscosity. Mill O reported satisfactory results with an all-brass centrifugal pump with stainless steel shaft and no inside bearings. Only maintenance required, the mill said, has been repacking the shaft—and the pump has been in operation for six years. Mill S said it finds the plunger-type size pump satisfactory, and that very little maintenance is required—a general overhaul after two years' operation.

The mill executives were next asked to give their experience with constant speed and varying steam pressure versus constant pressure and varying speed controls on slashers, and to cite the advantages and disadvantages of both. According to Mill F, it doesn't have the variable steam pressure, constant-speed type moisture control, but rather the type where the steam pressure is constant and speed variable. The mill, which runs a wide range of fabrics, reported getting the maximum speed in this manner, running cylinders at 12 pounds pressure—the maximum allowed at the mill. In this manner, said the mill, maximum drying is allowed, but there is the disadvantage of overdrying in certain places, especially when going at slow speeds. This type instrument was described as less sensitive than the newer types since it takes more time for its speed to change.

Mill O reported it hasn't used constant speed and varying pressure, but has used constant pressure and varying speed for over two years, finding it more than satisfactory. Slasher production was increased drastically when this method was used in conjunction with moisture control, the mill reported. Now, the mill said, it has more uniform drying and moisture content. The mill said constant pressure and varying speed control tends to give a very low time lag in speed change. Mill T said its old type slashers have constant speed and steam pressure with instrument control and schedule to follow in regards to speeds and temperatures, to insure correct amount of moisture.

The executives were then asked how long a slasher can be stopped for doffing before a size mark will show on the yarn (caused by the squeeze roll), and how it can be prevented. Mill D gave 30 seconds as the time limit, and said marking is prevented thusly: the slasher tender and tender of the adjacent slasher work together to reduce stop time, and yarn is taped while running slow speed. The slasher is stopped, doffed, started and moved up a few inches. After the empty beam is put on, the slasher is started.

Mill E gave the time limit as less than 40 seconds, and advised instructing the slasher men never to stop longer than 30 seconds if possible. Mill F said the mark will show on its fabric in about two minutes, and said it doffs in pairs in order to eliminate the stoppage time. Mill H said blanket-wound rolls will show size marks if the slasher is stopped a minute and a half, but won't show up on yarn-wound rolls for about three minutes.



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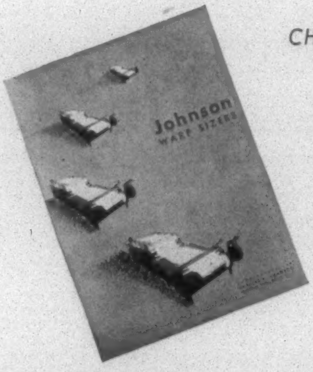

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Avcoset Stabilization Of Rayon Fabrics

By I. H. WELCH & JACKSON A. WOODRUFF, Textile Research Department, American Viscose Corp.

STABILIZATION of rayon fabrics (or shrinkage control, as it is often called) means the retention of useful dimensions during normal wearing and cleaning. Since wet cleaning usually has a much greater effect on dimensions than does dry cleaning, it is the main reason for this discussion. The only limitation placed on the conditions of wearing or cleaning is that of common sense. One does not normally scrub the face of a bridal satin with a stiff brush nor take spots out of spun rayons with mineral acid. At the same time, if a garment is sold as washable, then it is reasonable to expect that a properly operating automatic washing machine would do it no harm in not only one washing but many washing cycles. Also, the choice of detergents should need only common sense restrictions. This is the kind of stabilization or shrinkage control in which we are interested.

For some time, there have been two different finishing approaches towards obtaining various degrees of stabilization of rayon: (1) The use of alkaline or aldehyde chemical treatment of rayon fabrics combined with mechanical relaxation to give permanence of stability. (II) The use of resin treatment of fabric combined with mechanical relaxation resulting in stabilization of widely varying durability.

At this moment, it can be definitely stated that this second approach has often failed to meet the requirements expressed in the opening paragraph. Data will be presented later in the paper to show what limitations cause these failures.

The first approach of aldehyde treatment followed by relaxation or compressive shrinkage has just recently become a practical and commercial realization. This approach will be treated in order of history of development, the effect on rayon fibers and the basic principals of mechanical application to be observed.

The chemical treatment of rayon was developed quite a few years ago, possibly starting with a prolonged formaldehyde treatment of fabrics in an acid solution. This reaction chemically changed the rayon, reduced its swelling tendencies in water and increased the slope of the stress strain curve. This process was not well adapted to continuous processing and although the batch technique was improved gradually over the years, it never reached popularity. Gradually the use of urea formaldehyde displaced the straight formaldehyde reaction technique. The objective as a finish was largely crease resistance, since the fabrics were not of the type that would be wet cleaned. With the advent of spun rayons, the desire for stabilization increased and many avenues of attack were pursued. The urea formaldehyde and melamine formaldehyde resins were worked with extensively, but the first real stability came from a treatment with strong alkali followed by a rapid neutralization. This reached commercial application as the "Definize" process. This alkaline treatment is interesting in that it can produce fabrics having shrinkage control without lowering appreciably the degree to which the treated rayon swells in water. The rayon fabric loses its tendency to shrink progressively perhaps by relaxation of the strains placed in the fibers during manufacturing. Such a treated fabric will grow when wetted and then shrink back to dimension when dried. The action of an untreated fabric is similar except that it will progressively shrink more on drying than it grows on wetting.

Using other aldehydes in a manner similar to formaldehyde brought about the glyoxal application with an acid catalyst in the presence of heat. As with the formaldehyde, the glyoxal reacts with the cellulose and the resultant fabric has a reduced water absorption and an increased slope to its stress strain curve. With the decreased water absorption or water swelling, the growth and shrinkage occurring in wetting and drying cycles is greatly reduced. The change in stress strain curve is desirable in that the fabric shows improved resistance to creasing and improved resistance to the wearing action of laundering cycles. The alkaline approach does not have these advantages which are shown by the aldehyde treatments. Both the alkaline and the aldehyde treatments have caused inconsistent damage to the rayon due to the difficulties in controlling the reactions during application.

Although the effect of these three chemical treatments when properly applied is permanent, they only provide the elimination of progressive shrinkage and must depend on proper relaxation or compressive shrinkage to give satisfactory dimensional stability in the first wash. To accomplish this consistently on ordinary finishing machinery is not easy since the least pull along the warp will extend the fabric and, therefore, depending on the equipment and the care used, the fabric may have from 0 to five per cent shrinkage in the first wash while the additional shrinkage in subsequent washings would be negligible. The CCC-T-191a cotton wash procedure is used for this testing. What can be done to bring about a greater resistance to this distortion during final finishing? The answer in aiding in this finishing has been found in adding surface bonding materials to the chemical treatment. This is the story of Avcoset, where an alkali soluble cellulose ether is mixed with formaldehyde and with less than one per cent of these materials permanently added to the fabric, an entirely new system of stabilizing has been developed, giving good uniformity of control over both the initial wash and all the subsequent washings.

The development of Avcoset has greatly improved the consistency of results dependent on mechanical handling as well as providing good control of the reactions which might tend to damage the rayon. The early development started with the application of alkali soluble cellulose ethers to rayon materials. These ethers were precipitated on the surface giving added body and stiffness with considerable permanence. At the same time, it was found that these ethers helped to reduce the shrinkage of rayon fabrics, but only when fairly large amounts of the ethers were used. The change in hand resulting from this heavy application was too great for acceptance on a wide range of washable garments. Attempts were made to cut down on the amount of cellulose ether and to aid in the shrinkage control by adding a formaldehyde solution with acid in a coagulating bath. This made a two-bath procedure and although difficult to control did show excellent promise of stibilization of rayon. About three years ago, it was disclosed that if the formaldehyde was added to the solution of an alkali soluble cellulose ether, it was then possible to titrate the solution with sulfuric acid from the caustic alkali pH down to a pH of 1.3. Without the formaldehyde, the ether would aggregate in an unmanageable gel. Actually this pH of 1.3 was found to be the optimum for rayon after many trials.

The Avcoset process is the result of this combination of Avcoest C (alkali soluble cellulose ether) and formaldehyde applied at a pH of 1.3 dried, cured, washed and relaxed dried. The cellulose ether contributes at least two advantages and the first is that the fabrics can be handled in finishing with less danger of pulling out the stability. The second contribution is that many of the dangers of inconsistent formaldehyde combination are greatly reduced. It is impressive to note that if the Avcoset C cellulose ether is omitted from the mix, yet everything else is kept constant, the net result will be badly damaged rayon.

Mechanically the Avcoset chemicals are applied in a routine fundamentally the same as for many of the cured resin applications, pad, dry, cure, wash, dry, finish. The pad liquor forms a rather viscous mix and therefore, it is recommended that a long pad box be used, preferably with a double immersion in front of the nips. A double immersion aids in obtaining an even surface saturation before actually completing the impregnation at the pad rolls. The pad rolls should be normal rolls of 12 to 20 inches in diameter and operating at pressures from 200 to 400 pounds per lineal inch. The double immersion before the nip naturally causes some tension and at this stage tension is beneficial to the ultimate dimensional control. As a result of this tension, the dyed goods going through the pad will be stretched from three to seven per cent. It should be remembered that prior to the padding, the goods have just come from scouring, dyeing and drying routine and have accepted some of the expected processing loss. The Avcoset fabrics can show less processing loss than other methods if desired.

After padding, it is accepted practice to go immediately to a clip tenter dryer where the cloth is pulled out to the desired width for setting and then dried. Considerable formaldehyde is given off into the air at the entrance and exit of this dryer and provision must be made to vent these fumes; otherwise, during production an intolerable odor condition will develop. The drying is best done at temperatures around 240° F.

The next step is curing. This can be done without tension or with tension as desired. The recommended temperature

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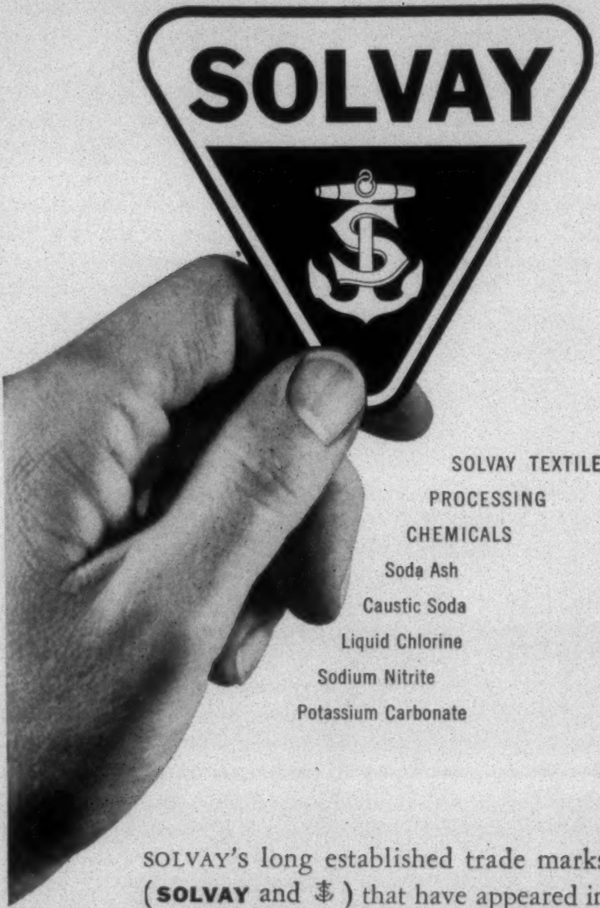

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of curing is 330° F. for $2\frac{1}{2}$ minutes. Lower temperatures must use longer times and higher temperatures shorter times. Be sure of your temperature—good control results in better curing.

After curing comes the washing which is done to provide neutralization of the chemicals remaining on the fabric, to remove excess salts and to provide an opportunity for wet relaxation. The best relaxation appears to be obtained in a rope-style wash. A satisfactory wash can be obtained in a continuous open-width tensionless machine but it is easy to understand that the flexing in the rope form will give a softer, fuller finish which is not obtainable on continuous open-width treatment. The goods may shrink as much as five per cent in this relaxed washing. The conditions of washing are normally from 120° F. to 160° F. at a pH of between 9.0 and 10.0 and in the presence of a synthetic detergent. After washing, a water rinse or two is given to clear the fabric and remove the detergent.

The final step of relaxation is the drying. The preferred equipment is the overfeed pin tenter feeding to the fabric as much relaxation as the fabric will take. Usually, this is in the range of two to four per cent on spuns. For many end uses, the pin tenter can be the final operation. However, for a smooth finish, it is sometimes necessary to run through a steam framing which will remove any slight ripple which may remain in the goods. A stretching of one to two per cent normally takes place in steam framing without tension. This will be followed by roll up or possibly by semi-decating. Sometimes, on continuous filament fabrics, a calender will have to be the final finishing operation in order to obtain the desired glossy surface.

Although the overfeed pin tenter is preferred, there are many loop dryers and airlay dryers which can be used readily on Avcoset treatments. Relaxation occurring while drying on either of these machines is usually sufficient for stabilization. Since the fabrics will not have a finished appearance after drying, they are usually run over a steam frame with as little tension as possible except where necessary in the filling to bring the fabric to proper width. For many fabrics, it is possible to use a sanforizer as the final finish when such a machine is available.

It must be understood that when finishing for stabilization, regardless of the chemicals used, that all the operations following curing must be consistent in regards to either relaxation or tension. If care is not taken then it would be best to leave shrinkage control out of the label and out of the advertising of the finished fabric. If someone doesn't like the finished hand, then one must not blithely put the fabric through a calender under tension and expect the stabilization to remain without change. No treated textile fabric can be abused and still retain stability to the first wash. The chemical treatment takes care of the progressive shrinkage but the relaxation finishing controls the first wash test. It is not at all difficult to do good work but one must follow the basic rules.

In order to aid the glyoxal application, it has been suggested to add certain resins to the glyoxal and catalyst in order that these resins might act in a manner similar to the role of the alkali soluble cellulose ether in the Avcoset process. These added materials (two to ten per cent) will help give consistency to the initial stabilization achieved by the glyoxal treatment. These resins may be lost during laundering to a considerable degree but the shrinkage control is maintained due to the durable glyoxal reaction with the cellulose. Unfortunately, the addition of these resinous materials impart to the fabric the undesirable property of chlorine retention.

In the past few years a few other chemicals have been developed which are described as modified urea formaldehyde resins or as stable condensable aliphatic compounds. There is no doubt but what these chemicals can produce stabilization of greater permanence to laundering than can be obtained with urea formaldehyde or melamine resins and at the same time can provide good crease resistance. The results of experimental trials at our textile research department have shown that stabilization not quite as good as obtainable with aldehyde treatment. The cost of these new materials is considerably higher and chlorine retention can easily be detected.

Going back to Method II, which deals with resin applications such as urea formaldehyde or malamine formaldehyde, one should know just what can be expected from the finish. These resin treatments offer fine opportunities for modifying the hand and appearance of rayon fabrics. For improving crease resistance and to give a bouyant fullness of hand, there is no better finishing treatment. At the same time, the fabric will gain somewhat in dimensional stability over an untreated fabric.

There have been many descriptions written of the methods of application of these mentioned resins and mill experience is widespread. It does not seem necessary, therefore, to go into detail on the procedures of application. Most of the routine follows the procedure already given for Avcoset with a few exceptions. The main exception is that in applying resins and aiming for maximum bulk and crease resistance, it is best to have relaxed conditions during padding, drying and curing. Naturally, the relaxed method used with the resins will yield less finished yardage but it must be done in order to obtain the best crease resistance and fullness of hand. It is expected that different standards of hand will be established in the future to distinguish between a finish for crease resistance and a finish providing stabilization for better satisfaction in washable end-uses.

In order to obtain a relatively low degree of objectionable progressive shrinkage during the useful life of a garment, it is necessary to relax wash and dry relaxed following the curing step in resin application. Failure to do so will result in a hand which changes drastically during the first washing cycle and also will give relatively poor first wash test to be followed by bad progressive shrinking in use. It should be recognized that those finishers who skip the washing step after resin curing are violating all chances of gaining stability and are giving the consumer a cheap non-durable finish. The abrasion resistance of the fabric can also be materially affected by this omission of washing. Any converter who asks the finisher to take such short cuts for a penny reduction must accept the penalty of selling inferior goods.

Why should one process be favored over another? It is necessary to go back to the start of this paper and re-read the reference towards normal wearing and cleaning. Many garments, if labeled washable, will be exposed to the action of chlorine bleach during normal cleaning. This is especially true of such garments as white or light colored shirts, dresses or pajamas. The Avcoset fabrics will not retain chlorine after such exposure. However, all the nitrogencontaining resins which are presently advertised as providing shrinkage control will pick up chlorine from the laundry bath and retain it unless an anti-chlor is used. No anti-chlors are used today in home laundries and very few commercial laundries follow this practice. Following this chlorine contact and absorption comes drying and pressing. During the pressing, the chlorine is released as hydrochloric acid and the strength of the cellulose fibers is rapidly reduced. This then is an excellent reason for preference towards the Avcoset fabrics.

Many people have complained that the laundries charge approximately double price for cleaning a colored sport shirt as compared with a regular dress shirt. Vat-dyed and Avcoset rayon fabrics can readily qualify for the cheaper price. They will not bleed; they will retain their normal dimensions and they can be pressed with remarkable ease. This type performance will allow rayon to enter into end use categories previously not suitable.

One interesting feature of Avcoset fabrics is the reduction of raveling along cut edges and the elimination of the tendency to curl which is exhibited by resin-treated or untreated rayon fabrics on washing. The performance of an Avcoset satin fabric is very striking. After several CCC-T-191a cotton wash tests, the face of the fabric is still clear and glossy with the hand unimpaired. The same fabric without Avcoset treatment was unusable due to shrinkage, curling and disturbed face after only a few such wash tests.

Although there is no fee for the use of Avcoset chemicals or the use of the name, it is required that all converters, dyers and finishers sign a license agreement with American Viscose Corp. Fabrics or garments so labeled as Avcoset may be subject to testing by the American Viscose Corp. at any time.

The textile research department of American Viscose Corp. has been responsible for the development of the Avcoset technique. This work has been a group effort by several members of the dyeing and finishing division of the above department. The objective of the work has been, and continues to be, to provide improved finishes for rayon so that rayon can continue to expand its application. Through the use of Avcoset fabrics, the field of washable fabrics, such as shirtings, sheetings, dresses, children's apparel, and so forth, can be enjoyed by rayon.

The following formula gives a list of the chemicals contained in 100 pounds of the Avcoset solution:

Avcoset C	1.0 lb.
dry caustic soda	1.3 lbs.
formaldehyde	10.0 lbs.—37% solution
sulfuric acid	2.7 lbs.—66° Be.
water	85.0 lbs.

Information for the preparation and application will be provided by representatives of the textile research department of the American Viscose Corp. on request.

The foregoing paper by Messrs. Welch and Woodruff was presented at a meeting last year of the Southeastern Section of the American Association of Textile Chemists and Colorists. "Avcoset" is a trademark of American Viscose Corp.

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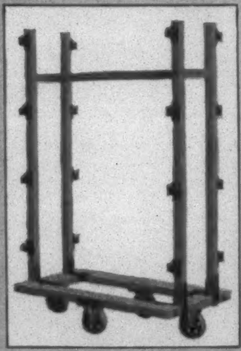

Fig. 310 Lap Truck

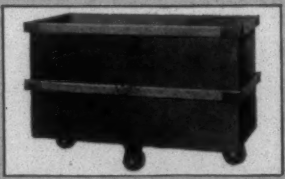

Fig. 870 Box Truck

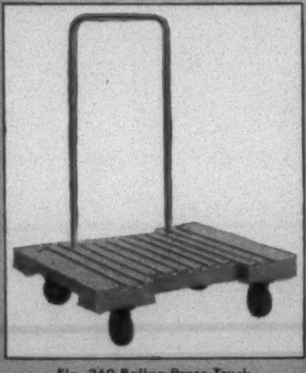

Fig. 360 Baling Press Truck

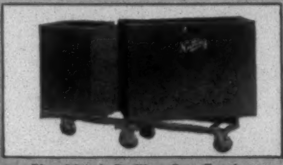

Fig. 304-A Doffing Box Truck

Fig. 88-5XRF Caster With Thread Guard

Fig. R10HDW Rubber Tired Wheel

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Power For The Textile Industry

By MARSHALL E. LAKE, Manager, Mill Power Department, Duke Power Co.

FOR the past 30 years the larger part of my time has been devoted to the negotiation of contracts for power service to textile mills in the Piedmont area of the Carolinas served by Duke Power Co. During that period many aspects of the picture have changed. Old problems have been solved and new ones have appeared.

I believe that the relative importance of its textile load to Duke Power Co. will prove interesting to you. In this respect it is not at all what might be considered a typical utility company. The U. S. Department of Commerce reports that on Sept. 27 1952 the number of textile spindles on the cotton system in place in the entire country as *23,172,000,* with the same figure for the Carolinas as *12,152,000* spindles. Duke Power Co. currently supplies the total electric service for *8,506,000* such spindles. This amounts to 36.7 per cent of the nation's total and 70 per cent of those in the Carolinas. While neighboring utility companies do a splendid job in supplying large blocks of textile load I am sure that none of them is so closely identified with the textile industry.

At the end of 1945, the last year of World War II, Duke Power Co. had a combined textile contract demand of aproximately 418,000 Kw. and by the end of 1951 this had increased to 701,000 Kw., representing a growth of 67.7 per cent in six years. In 1945 the total sales to textile mills were 2.0 billion Kwh. and in 1951 they were 3.4 billion Kwh., representing a growth of 70 per cent in the same six-year period. In 1951 sales to textile mills accounted for 50.5 per cent of the total Kwh. sales of the company to all classes of customers, and for 32.2 per cent of the revenue received from all classes of customers.

A good part of the increase in load has come about through the abandonment of mill-owned generating plants, but the principal increase has come about through the building of new mills and the enlargement of existing ones. Even without enlargement the trend in the textile industry is for mills to use increasing amounts of power. Higher levels of illumination, improved methods of cleaning and materials handling, higher speeds and larger packages, and air conditioning all contribute to this larger use of power and create problems with respect to proper distribution and control of power. The processing of synthetic fibers, both alone and in combination with each other and with cotton, have multiplied problems of power control as compared with the processing of cotton alone. I should like to discuss with you briefly some of these problems which are of vital interest to both of us.

The matter of electric service continuity is the most important of all and let me say at the outset that nothing can take the place of, or act as a substitute for, high-quality electric service by the supplying utility company. In mills processing cotton or spun synthetic fibers a service interruption means the loss of production and the inconvenienience of simply re-starting mill machinery, but usually the quality of product does not suffer to any noticeable degree. In the case of filament synthetics, however, there is not only the loss of production but there is often an impairment of the quality of the product because of "shiners" in cloth on looms and extra knots in thrown yarns where it becomes necessary to cut out lengths because of excessive twist variation.

In this general area of the country the loads of utility companies cover a wide area and are served by overhead transmission and distribution systems. Damage to equipment and interruption to service from lightning storms is a danger present for a large part of each year. And then, too, equipment can fail from defects and overload when no lightning is present. By the use of improved equipment and new techniques, some of which I shall cover later, the number and duration of service interruptions has been gradually reduced. Line and station insulators are actually tested while in service and transformers, circuit breakers and other equipment are tested at regular intervals to discover any deterioration and replace or repair the equipment before it actually fails in service with the attendant service interruption. While lightning still stands as "Service Enemy No. 1" and will probably always cause some service interruptions, the success of the methods used is gratifying. Taking the 1945 and 1951 composite record of service interruptions at four locations, one in each four divisions of the company's system, we find that in 1951 the number of interruptions was reduced by 70.6 per cent and the duration of the interruptions was reduced by 96.4 per cent. The locations and the years used were selected as typical but the record of improvement on the average may not be as good as these figures indicate.

The most important single factor in the reduction of service interruptions is the use of high-speed reclosing oil circuit breakers on transmission lines. Before the availability of such high-speed equipment a line flashover to ground caused by lightning often burned the conductor in two. Several hours may be required to locate and repair such a fault and if service to a particular customer or group of customers is dependent upon the single line in question, service to them is interrupted for the same period. The most modern breakers and their associated relay equipment

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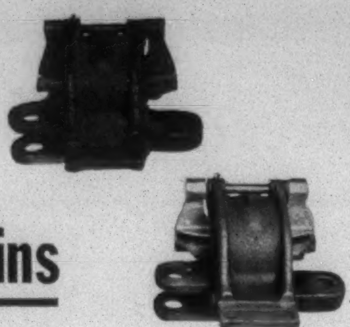

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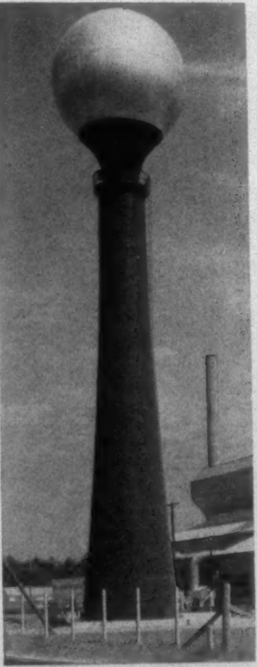

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will clear a fault and re-close in from six to 15 cycles, depending upon the type of relaying used. Somewhat older equipment in use requires up to 30 cycles to clear the fault and re-close. Such fast operation limits the amount of energy fed into a fault and prevents burning the line conductor in two. When the breaker opens the flashover is extinguished and upon re-closing, normal conditions are restored. The loss of line voltage for up to 30 cycles or one-half second should not interfere with mill operation if control is properly equipped.

A number of years ago when the processing of filament synthetics by our mills began to assume important proportions, we went into several such mills and made extensive oscillograph tests to determine critical service conditions. It was found that looms could tolerate a total loss of voltage for 30 cycles without stoppage of any appreciable number. It was also found that throwing equipment could tolerate up to six seconds loss of voltage without a damaging degree of twist variation. Incidentally, we also experimented with the effect of adding flywheels of various sizes to loom motors under test. Our tests in this latter respect were inconclusive but we know that this practice has since been adopted by the manufacturers of loom motors. Motor control equipped with instantaneous voltage hold-in coils will drop out with about six cycles total loss of voltage and must be re-started manually. Thus, for the mill to fully utilize the improved service of the utility company brought about by the high-speed re-closing breaker operation previously described, it is necessary for the mill to install adjustable time-delay under-voltage devices on control equipment. There has been some hesitancy to do this but trial installations in a portion of some weave rooms have clearly demonstrated their value. The looms driven by motors so equipped have continued operating during re-closure operations while those with instantaneous voltage coils have shut down.

We hear much these days about the interrupting duty of switchgear. The much higher duties encountered today are a result of two factors. First, the mills have grown in size and their power loads have grown even faster. Secondly, the utility companies have been required to install larger and larger plants, lines and substations to meet the ever-increasing demand for power. In our case, breakers of five million Kva. duty are common and we are now building the first part of a transmission system to operate at 220 Kv. Mill switchgear should be purchased with some margin or planning for future increase in interrupting duties resulting from both of the foregoing factors. The lowest over-all cost to the large mill on a long-time basis may result from purchasing power at a voltage above the utilization level and installing its own unit substations for transforming to motor voltage at several locations. These substations reduce substantially the interrupting duty of all switchgear connected to the low voltage side. This is not an easily solved problem for large existing mills with distribution circuits at motor voltage brought to a single switchboard, but I believe that those who have made the change are happy with the results.

Complete air conditioning with refrigeration may add 25 per cent or more to the load of a textile mill. Many installations have been made and usually bring up the question of starting large compressor motors across-the line;

where the mill is served from a separate substation supplied from a high-tension line, and such is usually the case, this usually imposes no particular burden upon the utility company or its other customers. While such motors are usually started less than once a day, the effect of such starting upon the voltage of mill circuits should be thoroughly investigated before it is decided that reduced voltage starting equipment is not necessary.

The greater number of mills depend entirely upon the voltage regulation of the utility company and of their own circuits for proper operation of lightning and other equipment. More and more, however, mills are utilizing special equipment and processes which require a degree of voltage regulation not reasonably obtainable on industrial service. In these cases this is no great problem as voltage regulating equipment of several types is available today and they are both reliable and economical in operation.

I have been told by a number of mill electrical engineers that when new textile machinery is being purchased the textile engineers naturally insist on all the latest improvements and attachments. By that time the improvement budget is pretty well used up and there is a tendency to specify only the minimum in electric motors and control. It is not reasonable to expect modern mill machinery to operate at peak efficiency and production unless it is operated by a comparable installation in motors and control. The mill electrical engineer must insist that management provide the funds to keep his installation abreast of new developments and he will find the electrical manufacturers and utility companies ready to render him assistance in this connection.

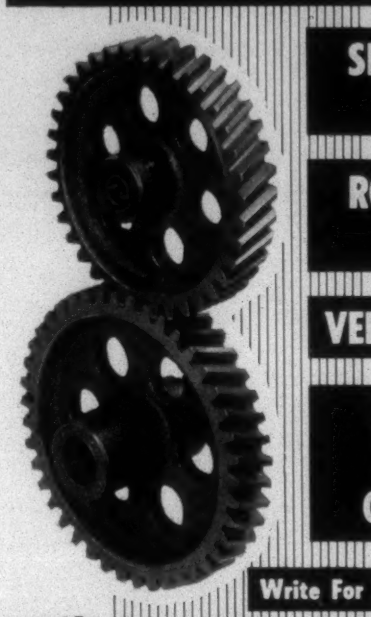
The textile industry here in the South, has not only grown but, on the whole, has set the pace with modern equipment and techniques. It is doing an outstanding job in supplying the many varieties of products for an ever-expanding national economy. This has required much planning and the investment of large amounts of capital. The utility companies supplying this load have likewise planned with care and invested large amounts of capital. To illustrate, the peak load of Duke Power Co. in 1945 was 762,000 Kw. and in 1951 it was 1,540,000 Kw. From the close of the war to date a total of 650,000 Kw. has been added in steam generating capacity, with 516,000 Kw. more scheduled to be added through 1954, a post-war total of 1,166,000 Kw. representing a system-wide investment in excess of $250 million. You keep the spindles and looms busy and we promise to do our level best to keep the necessary power coming to you.

Mr. Lake was one of the speakers during the Carolinas Conference on Electrical Engineering in the Textile Industry at Raleigh, N. C., last Fall.

Dallas Textile Club Offers Scholarship

A four-year scholarship in the Textile Engineering School at Texas Technological School in Lubbock will be established by the Dallas (Tex.) Textile Club as on of its major projects for 1953. The award will be made to a Texas student graduating from high school in 1953.

Dan B. Hyer, American Silk Label Mfg. Co., United Elastic Corp. and Thomas E. Wilson & Co., secretary of the club, has been made chairman of the scholarship committee. He will select a committee to assist in working out the mechanics of the scholarship. It is understood that applications will be screened and that the final selection will be made by officials of the college.



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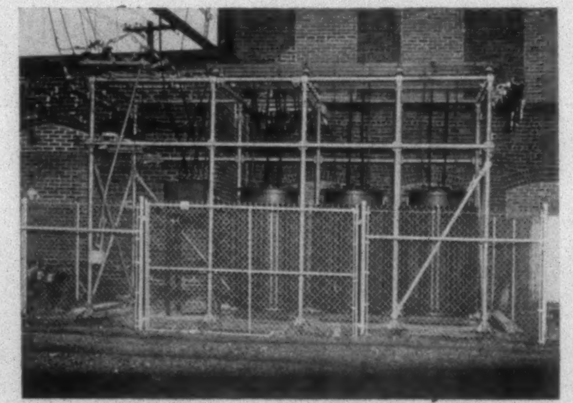

Photo showing Sub-Station structure furnished and installed by Southern Electric Service Company, Inc., Charlotte, North Carolina. This was designed for 2400 volts primary to 600 volts secondary for conversion to 4160 volts, 3 phase, Wye connection primary to 600 volts secondary.

For Highland Park Manufacturing Company, Charlotte, N. C.

Southern Electric Service Co.

Charlotte • Greensboro • Spartanburg • Greenville

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and then ✓ the many advantages KENTEX offers

- ✓ Made of finest-quality bark tanned or chrome leather.
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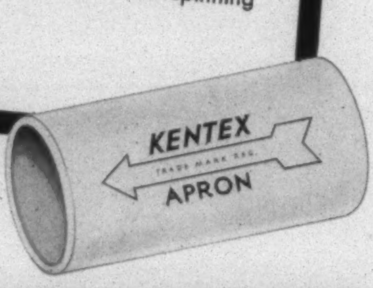
- ✓ Precision-gauged for thickness, width and length . . . a perfect fit that assures you high quality yarn with minimum breaks.
- ✓ Smooth drafting-surface that does not pick up lint, nor catch fine filaments.
- ✓ Extra durable—KENTEX Aprons wear longer, help cut spinning costs.

It will pay you to investigate the many advantages of KENTEX Aprons. Write for free samples (your size) and prices.



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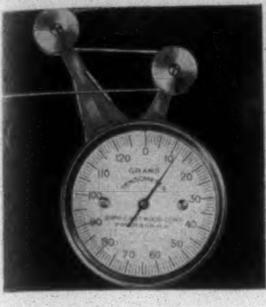
QUALITY AND SERVICE AT A MINIMUM COST
Has realized thousands of repeated orders

AVOID DEFECTS DUE TO TIGHT AND LOOSE ENDS



These new pocket-size precision instruments with dampening device enable you, your workers and overseers to detect faulty tensions that cause tight and loose ends. They are used:

IN WARPING—where uneven tension may cause end breaks or adhesions of ends during weaving.

IN WINDING—to adjust swifts uniformly.

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The new SIPP-EASTWOOD TENSOMETER

gives a steady reading without fluctuation in all uses. It fits handily into your pocket. Knurled case prevents the Tensometer from slipping out of your hand accidentally Soon pays for itself in the savings it effects.

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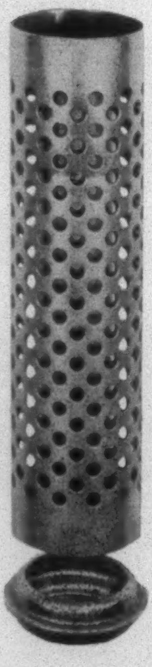

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MACHINED ON EACH END FOR FLATNESS AND ROUND EDGES

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FOR

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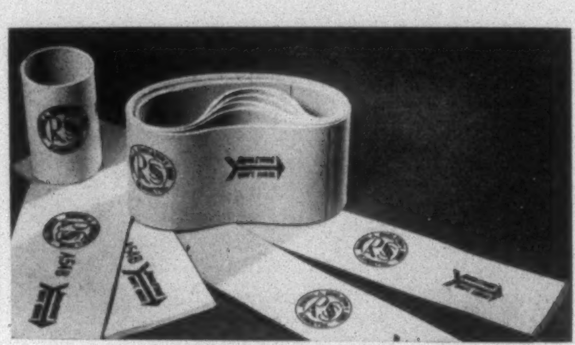

Singleton's New-Type, Resin-Reinforced Draft Horse Leather Aprons are available either Endless or Open. These improved aprons now have more than 400% greater resistance to abrasion than ever before.

In actual mill tests on Saco-Lowell Roth, Shaw, Gwaltney (SG-1), or Duo-Roth Spinning, there is a decided preference for Singleton's New-Type Treated Leather Aprons. The same is true of mills using Saco-Lowell FS-2 Roving.

Better performance is the reason for this preference. Singleton Aprons last longer, with fewer replacements. They have a longer **effective yarn life**—a more lasting control over the evenness of yarns produced — than any other aprons made today.

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year as its vice-president and director of manufacturing.

DeLambert P. Stowe, 64, prominent textile executive of Belmont, N. C., died Jan. 2. Mr. Stowe was one of the organizers of Perfection Spinning Co. and Acme Spinning Co., Belmont. At the time of his death he was secretary-treasurer of Perfection Spinning Co., and of South Fork Mfg. Co.; vice-president of Acme Spinning Co.; vice-president of Linford Mills Inc., president of the Belmont Building and Loan Association; director of the Bank of Belmont; a director of Belmont Converting Co.; and a director of Piedmont Processing Co. His wife, a daughter and three sisters survive.

Robert A. Whatley, who retired about 15 years ago after 40 years in the textile industry, died recently at his home in Tucker, Ga. He was associated with Carlstone Silk Inc. the last 20 years of his business career.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

MARTINSVILLE, VA.—The local plant of the Loom-Tex Corp. resumed operations early this month after having been closed down for more than a year. It is expected to be in full-scale operation by March. New machinery and equipment was installed in the plant during the past several months.

SENECA, S. C.—Work has been started on construction of a $2,000,000 plant near Seneca for Abbot Worsted Co. of Graniteville, Mass. Daniel Construction Co. is in charge of the project and the plant is expected to be completed so that operations may start in June. The ultra-modern plant will contain 100,000 square feet of floor space. The building will be totally enclosed with glazed tile throughout, completely air conditioned and equipped with the most modern machinery. Abbot Worsted Co. was established in 1855 and currently operates plants in Massachusetts at Forge Village and Lowell, with main offices at Graniteville.

REIDSVILLE, N. C. — Burlington Mills Corp. has announced plans for construction of a large brick and stone two-story addition to its plant in Reidsville. Officials state that the addition will increase the efficiency of manufacturing, warehouse and shipping operations.

GASTONIA, N. C.—Firestone Textiles Inc. has recently won the right to fly a U. S. Treasury Department Payroll Savings flag. U. S. Treasury officials said that the company recently completed an employee canvas and now has 1,070 employees, or 56 per cent, buying U. S. Defense Bonds each month.

MARTINSBURG, W. VA.—Dunn Woolen Co. has suspended operations at its two plants—one in Martinsburg and the other in the county—after having been in operation here about 40 years. There was no statement as to plans for use of the buildings and machinery.

BUENA VISTA, VA. — Duroflex Inc., a new concern, is expected to begin operations here in March in the production of rubber-coated fabrics and related products. Duroflex will occupy the plant formerly occupied by Burlington Mills Corp. A local industry promotional group purchased the plant from Burlington and arranged a ten-year lease with Duroflex. Fire did $250,000 damage to the plant last Nov. 30; however, it is expected to be reconditioned in time for operations to begin in March.

ELKIN, N. C. — Work is progressing rapidly on a new building at Chatham Mfg. Co. to house necessary machinery for producing worsted yarns. Production is expected to begin probably in March.

GASTONIA, N. C. — Three unmasked young men, in a daring daylight robbery at Gray Mills Inc., made off with a $2,400 payroll.

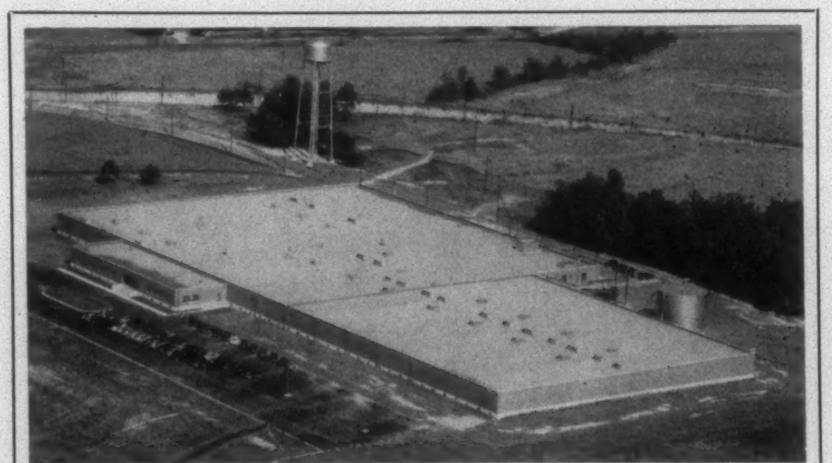
ROBBINS, N. C.—The Robbins Division of Robbins (N. C.) Mills Inc., has been presented a safety award for operating 1,607,908 man-hours without a disabling injury during the year 1951. The award was given in recognition for the record established in a safety contest sponsored by the North Carolina Textile Manufacturers Association. The Robbins plant employs about 800 workers operating on three eight-hour shifts.

CHESTER, S. C. — One hundred twenty additional 46-inch looms have been ordered from the Draper Corp. for the Gayle Plant of Springs Cotton Mills here. The additional looms will be used to supplement production of work clothing.

WALLACE, S. C.—Major additions are being made to the Wallace Plant of Delta Finishing Co., a division of J. P. Stevens Co. Inc. The new construction is being handled by Daniel Construction Co. of Greenville, S. C., and Birmingham, Ala., who built the original plant.

FOUNTAIN INN, S. C.—Woodside Cotton Mills last month sold 47 company-owned houses to employees who were living in them. The total sale price was $125,845. Approximately 130 houses of the company at Simpsonville, S. C., are scheduled to be sold soon.

MCCOMB, MISS.—The City of McComb has been granted permission to call a $100,000 bond election to provide funds for construction of a building to house a yarn processing unit to be operated by McComb Mfg. Co., producer of knitted lingerie.



WHITE HORSE MILL EXPANDS—White Horse Mill in Greenville, S. C., a plant for spinning and weaving fine-combed cotton, is currently undergoing expansion that will increase significantly the plant's capacity. The expansion program will include the installation of 6,000 new spindles and 120 looms. Daniel Construction Co. of Greenville, S. C., and Birmingham, Ala., built this unique one-story plant. It has a complete basement equal to the 208,000 square feet of manufacturing area. The basement is completely free of electrical conduits, pipes, etc., permitting free travel of lift trucks used in handling all materials in the plant. A ramp connects the basement and manufacturing floor.

The plant is completely air conditioned with air conditioning equipment being located in the basement both for easy access and to save the costs of additional steel that would normally be required for the erection of the conventional penthouses. White Horse Mill is the first complete bale-to-cloth cotton mill erected in this country since World War II.

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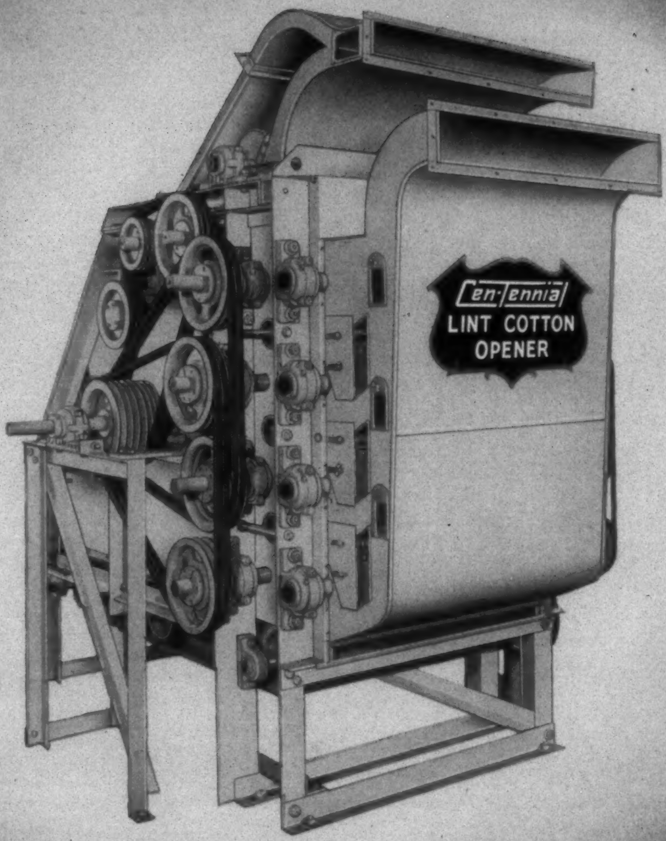
The Ultimate in Fibre Separation



Opens and cleans cotton
without losing any good stock

The Cen-Tennial Cotton Opener is a product of years of research by Southern Regional Research Laboratory, and thoroughly proven by mill experience. It gives many advantages which result in better opening room efficiency, including less waste and a cleaner picker lap. Decidedly worth your investigating. Write for full particulars.

CEN-TENNIAL COTTON GIN COMPANY
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For the Textile Industry's Use

EQUIPMENT — SUPPLIES — SERVICES — LITERATURE

Precision Top Roll

The long-awaited patented precision top roll was formally introduced to the industry Jan. 1. According to Burrel C. Cole, president of Cole Engineering Corp., producer of the product, several thousand rolls are already in use, and the comany has a large bank of orders now in production. During its five-year research and development period the concern has been known as Precision Rolls Co. Mr. Cole, who had 37 years in the automotive industry before he retired to enter the textile machinery business, is thoroughly familiar with mass production methods and particularly the proper application of anti-friction bearings and sealed lubrication.

Edwin P. Waite, vice-president and chief engineer of the company, is a mechanical engineer of considerable background in high-speed production of small precision parts. He has spent the past seven years in the design and production of textile rolls and related parts. The grease-sealed, anti-friction "precision" top roll was conceived by him more than five years ago, at which time his research and experimentation began.

Although the Waite rolls have been successfully operating in mills since August 1950 there remained a number of refinements and features to be worked out before the roll was introduced. Of particular importance is the manner in which the cot is applied and held in place. The precision roll employs a split shell or bushing, which in its normal position is actually smaller than the cylinder. When shell with cot is applied on the cylinder it expands until it reaches the proper location at which point two tiny depressions drop into grooves and the cots are securely locked in position. This strong tension grip prevents any possibility of vibration or slipping of the cots. Since the cots are buffed on dummy mandrels the exact size of the roll cylinders, the concentricity is near perfect. Small bench jacks for removal and application of cots are supplied by the manufacturer as are the mandrels for buffing cots in pairs.

Mr. Waite's original idea was to produce a self-greasing, anti-friction top roll that would operate at least five years without regreasing and at a price that would justify complete replacement of the roll when it failed. Experiments, however, proved that regardless of cost, the roll would be in perfect condition when the grease was finally exhausted. Therefore, a method of re-greasing without disassembly has been provided. A large internal self-container grease reservoir supplies the proper lubricant to the bearings every time the frame is stopped, but the reservoir is inactive when the roll revolves. "It is important that an anti-friction bearing be properly lubricated, but it is equally as important that it not be overlubricated," said Mr. Cole. Re-lubrication is recommended at five-year intervals.

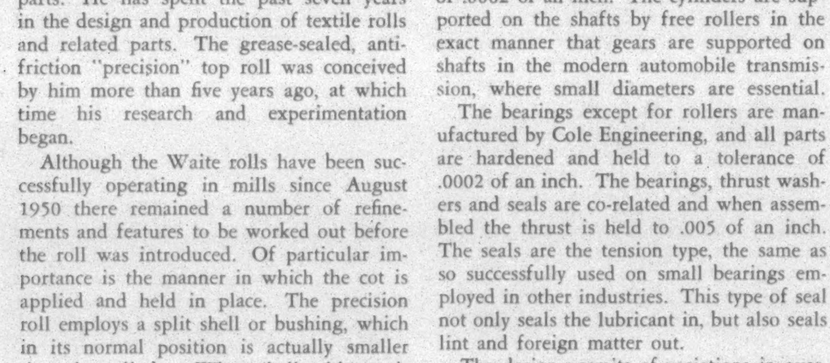
The shafts on which the cylinders are mounted are unusually rigid and the spindles are hardened and ground to a tolerance of .0002 of an inch. The cylinders are supported on the shafts by free rollers in the exact manner that gears are supported on shafts in the modern automobile transmission, where small diameters are essential. The bearings except for rollers are manufactured by Cole Engineering, and all parts are hardened and held to a tolerance of .0002 of an inch. The bearings, thrust washers and seals are co-related and when assembled the thrust is held to .005 of an inch. The seals are the tension type, the same as so successfully used on small bearings employed in other industries. This type of seal not only seals the lubricant in, but also seals lint and foreign matter out.

The design permits of variations in overall length and gauge as well as width and diameter of cots. More than 20 different type and size rolls have been produced to date, and the company is in a position to duplicate any type solid top roll in use. According to Mr. Cole, the company has absorbed all costs of development, special equipment and tooling, and has based its price schedules on a volume of 50,000 rolls per month. There is a variation in discounts according to size of order.

During the pre-announcement period mill orders have been restricted to rolls for a single frame for trial purposes, however, the discount applied has been the same as if the mill purchased its total requirements, and the contract further provides that the mill shall have the right to place orders for all or any part of its total requirements after the trial rolls are installed.

The whole program has been designed to make the investment self-liquidating, by savings in oil, labor and wear on saddles and cap bars. The life of the roll is unknown, but is guaranteed for a minimum of three years on a participating basis, the same as has been applied to storage batteries for many years. Beyond the three year period, regardless of age it will have an exchange value. Except for replacing or rebuffing cots, and re-lubricating, the roll cannot be repaired or disassembled at the mill. When it eventually fails it can be replaced at moderate cost; according to Mr. Cole, considerably less than the operating and maintenance cost of the solid type.

Cole Engineering Corp. will restrict its operations to precision textile rolls, bearings and related parts. It also produces the same roll with capless ends for conversions and new spinning. (A-1)



RA-V Starter

Arrow-Hart & Hegeman Electric Co. announces a new addition to its line of RA (right angle) motor controls. This new development is the RA-V magnetic motor starter, and features vertical overloads below the contactor. It is designed especially to be used with the new Crouse-Hinds M52, Type EPC explosion-proof condulet, generally regarded by the petroleum, chemical and petro-chemical industries as the preferred type of explosion-proof housing. These new Arrow-Hart Type RA-V starters are said to meet the need of plant engineers in these industries for motor starters of reduced weight and size without sacrifice of performance.

Much smaller in size and lighter in weight than conventional controls, these Arrow-Hart starters offer a number of advantages. For example, they require smaller condulets, reducing initial costs. Their lighter weight makes installation faster and easier. It has been found that two men can readily hang even the largest sizes. Much lighter and smaller supporting racks are needed, resulting in substantial savings. This is particularly true in multiple installations. Where motor control equipment is installed indoors, the over-all space savings are reflected in lower building costs.

An Arrow-Hart Size 2 starter requires only seven-inch condulet instead of the usual nine-inch. Similarly a Size 3 starter requires only nine-inch condulet instead of the usual 11-inch. While Arrow-Hart Size

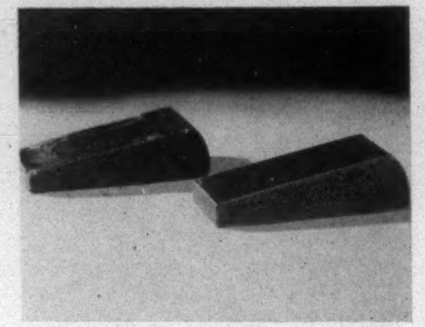
0 and 1 starters, like all others, require a seven-inch condulet, the smallest condulet size available, it frequently happens that additional power is needed to meet the demands of plant expansion. This is where, Arrow-Hart designers stress, the smaller, lighter RA-V starter saves its users time and money. An Arrow-Hart Size 2 starter simply replaces the inadequate Size 0 or 1 using the same seven-inch condulet, and without increasing the over-all size of the control installation.

Other outstanding units in the new line are: the only Size 5 starter on the market that can be housed in an EPC condulet; the Arrow-Hart Size 4 starter, as installed in the 11-inch condulet. This unit is not an uprated Size 3 or other adaptation, but a standard, full size starter supplying full capacity, peak performance and dependable operation. (A-2)

Westinghouse Booklet

Construction and application of the lint-free textile motor are described in a revised leaflet, B-3515-A, available from the Westinghouse Electric Corp. Describing the motor's use as an individual drive for pickers, roving frames, winders, and spinning and twisting frames, this leaflet shows how special design of end brackets and air passages prevent clogging by lint or other dirt. To further insure non-sticking of lint, end windings are built up with a plastic filler and all surfaces are finished with a glossy coating of enamel. The advantages of prelubricated ball-bearings — longer life, no grease spillage nor contamination, and elimination of greasing schedules — are explained. Also described is the action of automatic Thermoguard® protection against burnouts due to extended or repeated overloads. (A-3)

Celoron Parallel Plug



Continental-Diamond Fibre Co. has introduced a new Celoron parallel plug, 22SM, which has extremely high impact strength and is impervious to oil and water. The plug is strip molded of Celoron, a canvas-based laminated plastic that is widely used for textile gears and automotive timing gears. This material has built-in resilience; tests, conducted by a leading mill, show that when properly installed the C-D-F Celoron parallel plug lasts indefinitely and is far superior because it does not fracture, chip, or delaminate. Celoron does not require lubrication, as does metal, and therefore will not "freeze up." Penetrating oils that turn wooden or fiber plugs soft or spongy have no effect on the phenolic plastic. The new 22SM plugs are stocked in a variety of sizes. Write for full details and sample. (A-4)

Torrington Catalog

A catalog listing the small precision metal parts made by the specialties division of the Torrington Co. is now available upon request. Some of the many parts described and illustrated are special pins and pivots; screw driver blades; all types of rotary swaged rods, wires and tubing in practically all kinds of metals; mandrels for grinding wheels, abrasive points and polishing wheels; perforating punches in straight points and polishing wheels; perforating punches in straight carbon or alloy steels; tapered or pointed wires and rods. Also listed are the Torrington district offices and special representation. (A-5)

New Eastman Dyes

Tennessee Eastman Co. announces the availability of the following newly developed acetate dyes. *Eastman Fast Yellow 2R-GLF* is a bright golden yellow reportedly having exceptional fastness to atmospheric gas fading, light, washing, sublimation and perspiration. It is said that the slower exhaust rate of this dye makes it a valuable component with other dyes of the GLF series when an on-tone build-up is desirable. Eastman Fast Yellow 2R-GLF may be used in dyeing draperies and other

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If you are sharing in the Renaissance of the South, why let slow moving working capital deter your growth?

Let Crompton Factoring accelerate your capital turnover by giving you continuous cash for your receivables. Thus you don't have to wait for collections or be involved with a collection overhead . . . you are keeping your bank balance at a continuous peak. You are ready for more business . . . for opportunistic buys. Thus you can hold on to your inventory until a better opportunity presents itself.

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fabrics where extreme fastness to light is required, and it is reported to have very good fastness to light on pastel shades. It is not dischargeable. *Eastman Diazo Navy Blue RB* is a dispersed acetate dye which, when diazotized and developed with BON, gives excellent shades of navy blue which are reported to have excellent fastness to light, washing, perspiration and sublimation. Even when using increased amounts of dye shades of black blends of acetate and viscose, Eastman Diazo Navy Blue RB is said to reserve the viscose and eliminate clearing that is normally required. *Eastman Printing Blue 2B* is an anthraquinone type dye especially recommended for application printing of acetate fabrics because of the reported excellent dispersibility, excellent resistance to sublimation and very good fastness to wet processing. It is said to produce a clear, bright blue which fixes easily on steaming. The light fastness is reportedly very good in medium and heavy shades of blue on acetate. (A-6)

Fischer & Porter Catalog

Fischer & Porter Co. Catalog 29 describes the new constant pressure differential regulator, and the new instrument air pressure regulator. The constant pressure differential regulator is a compact unit consisting of the air pressure regulator and a new phenolic body Purgerator meter piped together on a bracket for wall mounting, or with a bezel which permits front or rear panel mounting. This unit is used to regulate purge flows of liquid or gas, for liquid level measurement or in dual arrangement for specific gravity measurement. The new instrument air pressure regulator was developed especially for internal case mounting with the P-4 Pneumatrol pneumatic controller series. It is a compact design with a unique pressure balanced valve which maintains constant discharge with very low "droop." (A-7)

Roving Disintegrator

C. C. Sumner of Hillsboro, N. C., is now producing a roving disintegrator designed to run off tangled, soiled or uneven roving left on bobbins when creeled out of frames. The manufacturer states that when bad or spoiled part of a roving is run off the remainder on the bobbin is taken out and sent on to the spinning room as first class stock. What roving has been run through the disintegrator is ready to go back to the picker room in No. 1 condition as raw stock. The process carried out by this machine, the manufacturer claims, does not damage fibers or bobbins. The life of the machine is said to be practically limitless as there are no moving parts and nothing to wear out. It can be made of either metal or plywood and the approximate weight, crated for shipment, is (metal) 180 pounds and (wood) 175 pounds. (A-8)

Two New Surfactants

The Rohm & Haas Co. is introducing to the textile industry two new surface active agents which are recent additions to its already extensive line of processing chemicals. These new products, designated Triton X-102 and Triton X-138, are highly concentrated non-ionic surfactants based on a synthetic hydrophobe and ethylene oxide. Both products are the result of close coordination between Rohm & Haas research and the textile industry.

Triton X-102 meets the need for a detergent having excellent emulsification properties for the waxes and oils which must be removed from rayon and cotton fabrics and yarns before they can be satisfactorily bleached and dyed. In addition, the new product offers improved solubility under the conditions of alkalinity and high temperature which are encountered in these operations.

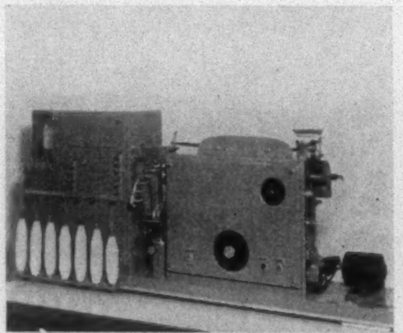
Triton X-138 offers a solution to the problem of obtaining efficient scouring of raw wool, without damaging the finest fibers. It is applicable to wool, cashmere, alpaca, vicuna, and mohair. This product readily emulsifies the wool grease, and is effective under less alkaline conditions than previously used materials. It rinses out readily, even at low temperatures, and is not adversely affected by hard water. It is not substantive to wool, and therefore does not leave residues on the wool fiber. This property results in very high efficiency in the wool carding operation. (A-9)

Milmer I

Specific application information, backed up with test results showing possibilities of savings by properly combating the ravages of mildew in several industrial fields, is given in a booklet just published by Monsanto Chemical Co.'s organic chemicals division on Milmer I. Test results reported show how inclusion of Milmer I—Monsanto's copper 8-quinolinolate—protects textiles from loss of tensile strength due to fungi attack; prevents the growth of fungi on vinyl plastic film and coated fabrics; preserves articles made of synthetic rubber formulations; prevents the "dirty" appearance which actually is mold growth in paint; and vastly prolongs the breaking strength of cordage, webbing, twine and rope. Effective techniques for incorporating Milmer I in textiles, vinyl film and tubing, cordage, leather, paper products, and paints are reported in the publication.

One of the newer uses for Milmer I—inclusion in paints—has revealed highly effective results in controlling mold growth in places where conditions of temperature and humidity favor mold formation. Milmer I is insoluble in water and common organic solvents, but it can be dispersed in oils and various oily liquids. The new Monsanto publication reveals how the dispersion may be accomplished for the various applications discussed. (A-10)

Autodinamograph



Stellite American Corp. has been appointed sole agent for the United States and Canada for the well-known Autodinamograph, Patent Pagnacco, an instrument for the testing of the strength and elongation of cotton, rayon, synthetic and woolen yarns. This Autodinamograph is manufactured by Fabbriche Elettrotecniche Riunite, Milano, Italy. It is fully automatic and is said to be the only tester on which strength and elongation tests can be made in one operation on seven bobbins. Seventy tests, i.e., ten tests from seven bobbins can be made

Permalite ALUMINUM ALLOY
SEPARATOR SHIELDS

Dozens
of shapes
and sizes

BETTER YARN AT LESS COST

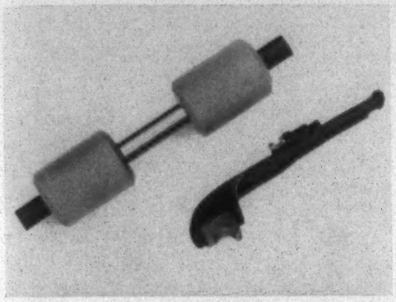
- Fewer ends down—some mills report 27% less
- Use two numbers lighter travelers for higher-strength yarn
- Polished aluminum blades stronger than steel—much lighter—cost less
- Non-slotted blades mean less wear on yarn, less lint, fewer slubs
- 7,000,000 in use by more than 400 mills

Coleman Co., Box 3597, Greenville, S.C.
Roy Schrimshire, Box 906, Columbus, Ga.
Matthews Equip. Co., 93A Brdwy., Prov., R. I.

WHITEHEAD ENGINEERING CO.
522 WEST PEACHTREE STREET, N. W.
ATLANTA 3, GEORGIA

although this instrument can be built for a different number of tests and bobbins. A quick and good average can be obtained. This is said to be the only instrument that records strength and elongation simultaneously. The over-all averages of the strength and elongation are automatically obtained. The coefficient of variation of the tests can be simply calculated. The distance between the two clamps is made according to the new I.S.O. standard of 20 inches. (A-11)

Dixon Drafting Assembly



Dixon's new saddle and top roll combination is introduced by the makers as a unique approach to elimination of oiling and reduction of power consumption in the drafting sections of spinning frames. Characteristics of the new assembly, developed by Dixon Lubricating Saddle Co., derive from modernized design of the top roll and from use of Rulon as a bearing material. Rulon, Dixon's "lo-friction" bearing material, withstands abrasion and is described as "slippery throughout, from outer skin to inner core." Advantage claimed over anti-friction bearings is that its initial cost is far lower, it can be replaced easily at moderate cost, and bearings of Rulon "will last until they have paid for themselves at least ten times over." Rulon never requires lubrication, hence does away with the incidence of oil smears and all cost of labor and supplies involved in oiling.

In designing a new solid top roll as an element in Dixon's highly efficient drafting team, company engineers took advantage of the fact that modern materials have lifted traditional restrictions imposed by old-fashioned covering materials and use of cast iron. Boss diameter of the Dixon top roll has been reduced to ⅜ of an inch to allow use of a thicker cot wall, thus providing more cushion—which gives a larger bite area to grip fibers and will possibly allow some weight reduction. Diameter of Dixon's hardened steel arbor is ⅜ of an inch, and the new model has nearly the same deflection as to old-time 9/16-inch cast iron arbor—yet gives the advantages of being easier to turn (or in the reverse, harder for the saddle to grab or brake), as well as of traveling fewer feet per minute, thus causing less heat to be generated and less wear on the saddle bearing.

Roll-picking and cleaning are substantially reduced, as elimination of oiling does away with sticky surfaces. Besides eliminating lubrication on saddles and cap bars, according to Dixon, use of the new combination results in as much as 33 per cent less power consumption than regular top rolls and saddles, and decreases the number of breaks per 1,000 spindle hours.

The design of the front saddle is not only

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(January 1953)

Reader Service
TEXTILE BULLETIN
P. O. Box 1225
Charlotte 1, N. C.

Please send me further information and/or free literature described in the following item(s) carried in the "For The Textile Industry's Use" section (list key numbers that appear at end of each item): ______________________

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sensible and readily understood but also permits immediate installation on the frame without the additional purchase of new back saddles or stirrups if not desired or needed. Top rolls may be buffed and cots changed on the same equipment and by the same methods now in use; the thicker-walled cots allow more buffing, lengthen cot life and reduce this cost factor. Both cots, it is noted, revolve in unison rather than singly as in most anti-friction rolls. Reduction in starting torque reduces ends down after a lay-over or a doff. Full data on the new combination are available without obligation. (A-12)

Card Drive Modified

American Pulley Co. announces that the American individual cotton card drive has undergone modifications to insure longer life with less maintenance. In the card drive speed reducer, the hardness of pinions and gears has been increased by almost 100 per cent insuring greater gear life. High-speed pinion bearings have been replaced with larger bearings to increase bearing life. The card drive clutch modifications include a new clutch collar design whereby the input shaft collar has been finned to protect the input seal from lint. (A-13)

Honeywell Bulletin

Minneapolis-Honeywell Regulator Co., Brown Instruments Division, has made available to the industry its Bulletin 8504 describing the Honeywell cut-off relay, designed for use in electric control circuits to shut down the process when a pre-determined control point has been reached. The bulletin also contains application and operational data, specifications and installation information. (A-14)

Liquid Belt Lube

Alexander Bros. Belting Co. recently placed on the market its new Alexander spray type liquid belt lube. Packaged in pressure cans, the lubricant is released in a fine mist by simply pressing the nozzle with the finger. The product revitalizes all leather, rubber or fabric transmission belts —restoring flexibilitly, prolonging life and stopping slippage. It is economical because there is no waste. It is convenient, clean and safe to apply. Because of the small, easy-to-use size of the new container, the manufacturer recommends that users keep a can handy to each drive for frequent use. Best results are obtained by using sparingly and frequently. It is sold by industrial distributors in single 12-ounce cans or in cases of 12 cans each. Name of your nearest distributor and descriptive literature will be sent on request. (A-15)

Atkomatic Bulletin

A bulletin is now available showing typical applications of the Atkomatic solenoid electric valves for high pressure lines. Atkomatic solenoid high pressure valves are made in sizes from one-half inch to 1½ inches, and for pressures to 3,000 psi. Designed with only three moving parts and no external linkage, normal valve maintenance is further reduced by the packless construction incorporated in the design. Atkomatic solenoid electric high pressure valves can be used for any application where the media is not harmful to bronze or stainless steel. Coil housings for various conditions are offered in dust-tight, water-tight or explosion-proof housings for use in hazardous atmospheres. (A-16)

Automatic Safety Feature

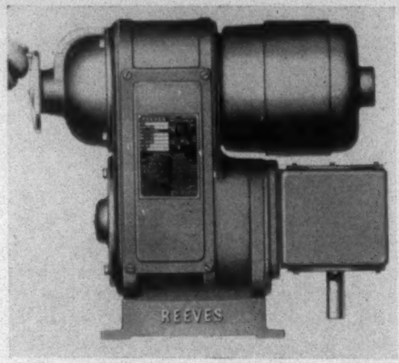
Faster, safer instrument servicing of strip chart Tel-O-Set recorders will now be possible by adoption of a new automatic motor cut-out mercury switch developed by the industrial division of Minneapolis-Honeywell Regulator Co. Through utilization of the new "quick-disconnect" switch the live power line to the chart motor of the recorder is instantly and automatically de-energized when the chassis is withdrawn beyond the safety catch. There is no danger of accidentally shorting disconnected leads dangling against the instrument case. The Tel-O-Set recorder with the "quick-disconnect" switch was seen as a practical solution to maintenace problems, particularly in installations where space-saving and convenience mean fewer man-hours spent in servicing equipment. It eliminates the need for explosion-proof switches; the necessity for shutting down an entire panel, or taping "hot" wires. The new switch is currently available as special optional equipment. It is in production as a standard product. (A-17)

Jacobs Thread Cutter

The Bullard Clark Co. through its two operating divisions, E. H. Jacobs Southern Division and E. H. Jacobs Northern Division, announces that their Jacobs Verybest thread cutter is now available. This new-type thread cutter for any battery loom was first shown at the Southern Textile Exposition in Greenville, S. C., in October and it created a great deal of interest.

The manufacturer claims advantages for its cutter as follows: (1) Light weight—less than one-third of conventional cutter. (2) Fewer adjustments because there are few parts, less linkage and less lost motion. (3) Cuts and holds all types of a yarn from the finest to the heaviest, 15-denier nylon to 6 duck. (4) Less down time. A damaged cutter can be replaced by a new cutter in a matter of a few minutes. (5) Positive opening and closing. (6) Dropping end when open is assured — because of the short wide opening knife blades. (7) Simple construction; simpler design than any other cutter. (8) Provides longer service without adjustment. (9) One set of parts —this cutter will fit any type of battery loom and any size and type of shuttle or bobbin. (A-18)

Right Angle Drive



Reeves Pulley Co. announces the addition of a fractional horsepower Vari-Speed Motodrive with right angle reducer to its complete line of variable-speed drives and controls. The Reeves Motodrive with right angle reducer combines in one space-saving unit any standard N.E.M.A. frame, type "C," face-mounted motor; the time-tested Reeves speed-varying mechanism; and the new right angle worm gear reducer. This new right angle reducer is available on all fractional horsepower Motodrives in either horizontal or vertical models; with speed ratios from 2:1 through 10:1.

The compact design of this new drive is said to assure a self-contained unit that is small and compact, yet extremely rugged. The output shaft drives up, down or at right angles in the horizontal type of units and drives down or at right angles in the vertical model. The right angled shaft arrangement is of great advantage in many applications—saving valuable floor space by making it possible to put the fractional horsepower Motodrive flat against the driven machine or by mounting the Motodrive directly above or below the driven equipment.

The right angle reducer, an alloy steel helical worm and bronze gear, is ruggedly built to withstand heavy duty, continuous operation. All gearing and bearings are adequately lubricated and the case is properly sealed to insure against any oil leakage. Handwheel control is standard on these drives but electric remote and mechanical automatic controls can easily be applied. For prices, complete dimensions, and many assemblies available, request bulletin No. M-522. (A-19)

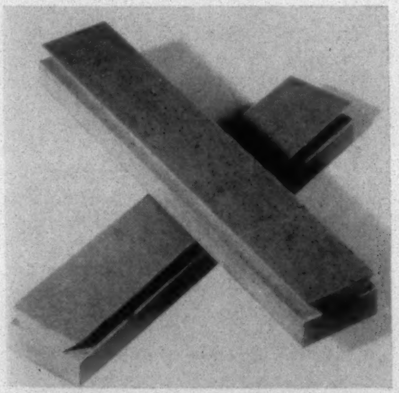
Heyden Technical Bulletin

A new technical bulletin, "Formic Acid," which summarizes recent research on the uses of this chemical in the textile, chemical, plasticizer and other industries, has been published by Heyden Chemical Corp., large producer of this versatile product. The properties of formic acid, methods of handling and preferred equipment are described in detail. The use of formic acid in continuous dyeing of nylon fabrics is reported in the textile section of the bulletin. The use of formic acid to raise a pile consisting principally of wool fibers in fabrics that are mixtures of wool and cellulose is also included in the section on textile uses. A survey of the literature on formic acid includes sections on pharmaceuticals, resins, solvents, fumigants, rubber, leather, textiles, perfumes and floorings. (A-20)

Over-Drive Tape

Lambeth Rope Corp. reports that although tape drives for spinning frames and twisters have been in use since 1912 there have been no basic improvements in design of the tape prior to the new patented Lambeth Over-Drive tape. Lambeth officials state that an extended analysis of the driving conditions at the whorl of the spindle, using dynamometers, the Strobotac and other instruments revealed the inherent shortcoming of the flat band rigid center tape. After testing several new types of design and construction under identical conditions, the present design of the Over-Drive tape was adopted on account of the excellent results obtained in both the laboratory and in the mill. The firm states the Over-Drive combines all of the characteristics required to attain high spindle speed with reduced power consumption, along with an increase in yarn production, reasonable first cost and economy in use through long life as a result of strength and flexibility. (A-21)

Plastic Vibrator Blocks

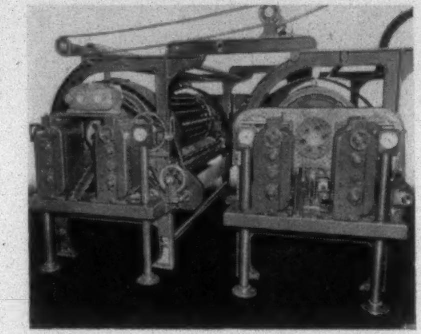


New prospects for sharply reducing the parts replacement cost of operating Draper looms were seen recently in results of the first mill tests of a new laminated plastic vibrator block for such looms. The new block is made of Synthane Corp.'s L-RF laminate with filler of the non-woven random cotton fiber mat known as Lantuck, recently developed by Wellington Sears Co. and West Point Mfg. Co.

First mill tests subjected it to weeks of actual use on Draper looms at Dixie Mills, LaGrange, Ga., in direct comparison with conventional wood vibrator blocks. According to Duane E. Roland, general manager of Synthane Corp., Dixie Mills' findings indicate that Draper loom users now can expect to get 60 times longer life out of Synthane's Lantuck-based laminated plastic vibrator blocks than they normally get from wood vibrator blocks, at only six to eight times the cost.

Dixie Mills found, Mr. Roland added, that the new blocks completely eliminate the costly damage which wooden blocks often do to other parts of the looms—especially to whiproll cams and followers. They also reduce heavy losses of production that occur when looms are stopped for repairs or replacement of parts. Detailed findings of the mill tests, conducted as another project of the research division of West Point Mfg. Co., are available for study by interested persons upon request. (A-22)

Gessner Tandem Napper



Adding to its line of machines for the increased quality control of fabric finishes, the David Gessner Co. has introduced a tandem double-action napper—two napping units operated as one machine with double the napping production, and with improved napping quality. Gessner's energy indicators, again incorporated on this tandem model, give the operator precise control over the napping, never before obtainable on both cylinders at once. This control, made possible by the positive drives of the napping rolls, also extends to the positive drive which synchronizes the cloth feed between the two cylinders, permitting fine adjustment of the cloth tension. The tandem napper can be arranged to deliver cloth to the rear, or to carry the cloth to the front of the machine for repeat runs. (A-23)

New Paint Products

Uncured concrete and new outside masonry can be painted; fresh plaster walls can be primed and finish painted the same day, and industrial machinery gets new durability against grease, oil, chemicals and moisture with new rubber-base paints announced by Tropical Paint & Oil Co. With the new Tropical formulations, developed on a synthetic rubber resin base, Van M. Darsey, president, states that the sealing, waterproofing and long-wear characteristics of rubber-base paints bring industrial maintenance men new time and money-saving advantages. The new products include rubber-base Floorkote with which old and new-laid concrete, basement floors, and cement floors laid directly on cinder fill, can be painted without waiting for curing or complete drying. He adds that Floorkote is unaffected by alkali in the concrete, does not saponify or rub off and will not react with caustic cleaning compounds. Tropical rubber-base Cementkote was developed for outside application on cement, stucco, brick and stone. Mr. Darsey reports that it seals the surface against moisture penetration, and on new construction it covers without streaking, yellow spots or burns. It is self-cleaning. (A-24)

Teflon In Textiles

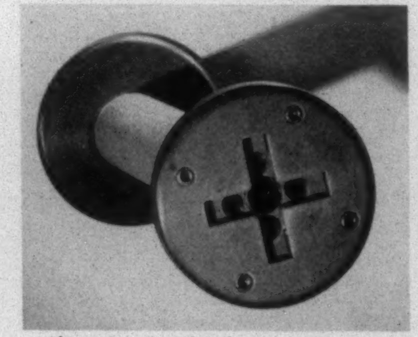
Abbott & Biddle, Philadelphia, Pa., has announced the development of a new type of oilless bearing utilizing Teflon, the Du Pont plastic. These Teflon bearings have a lower coefficient of friction under load than graphite or other commonly used lubricants. Teflon bearings are said to outlast nylon bearings several times over, and the bearings are unaffected by any textile chemical. The most fragile and delicate of fabrics and fibers cannot be harmed or soiled by Teflon bearings. Teflon, because of its outstanding chemical and electrical properties, has already been widely used in the chemical and electronic fields. Abbott & Biddle invites inquiries regarding specific applications of its Teflon bearings in the textile industry. (A-25)

Orr Slasher Cloth

Orr Felt & Blanket Co. announces that it now has a chemically treated all-wool slasher cloth which it is ready to offer to the cotton textile industry. The new cloth is made to the same quality standards that gave the original Orr cloth (formerly a combination of wool and nylon) such long life, and the new all-wool cloth will not harden on the roll—an important feature which Orr officials state will appeal to every superintendent and slasher room foreman.

The firm states this chemical treatment will retard physio-chemical degradation of wool by all the common causes found in a cotton textile mill. This chemically treated slasher cloth is especially treated to prevent the destruction of wool by bacteria. It imparts dimensional stability to the fabric and aids in maintaining a uniform resiliency throughout its useful life on the slasher. (A-26)

Twister Bobbin Development



Akron Spool and Mfg. Co. announces an entirely new development for twister bobbins. This new development takes the form of an "X" on the drive head of the twister bobbin. It gives the spool added life and service at the point where wear is greatest.

John Hawley, the firm's president, states, "It is the experience of all manufacturers that the greatest wear on fiber or plastic-headed twister bobbins comes at the slot in the drive heads. Here the drive bar on the twister frames chews out the slot. This bar eventually wears the slot down to a point where it will no longer drive the spool. The double slot answers this problem. At the same time it assures the users of getting double wear and life out of his twister bobbins." Mr. Hawley further states that this feature will be added to his regular line of spools without any increase in price.

Another new development announced at the same time was a new baked enamel wrinkle finish on the steel barrel. This hard finish enamel will not chip or peel. The wrinkle finish makes for easier yarn starting on the twister bobbin.

Akron Spool and Mfg. Co. is the sole manufacturer of the Akron twister spool—metal textile spools on which the heads and barrel are tied together so that the fiber spool heads cannot turn independently of the barrel. The Akron twister spool was designed especially to withstand the pressures of the newer synthetic fibers, particularly nylons.

The precision steel welds by which the heads are tied to the barrel make for many times greater strength than the wood screws which are used in the construction of ordinary textile spools. Many major synthetic fiber manufacturers are adopting this type of spool because of its extra strength and its indestructibility, it is claimed. (A-27)

Hartexsol C

Hart Products Corp. announces Hartexsol C, a new development in the field of humectants, which reportedly is more effective than c.p. glycerine in attracting moisture. This humectant, available as a water-white viscous liquid, is claimed to show approximately ten per cent greater hydroscoposity than glycerine. Examples of the application of Hartexsol C follow:

(1) In the knitgoods trade as an additive in weighting to eliminate dusting and powdering of the weighter and to soften the hand. (2) As a flame resistant treatment. (3) In the textile printing trade as an ingredient of the print paste for vat dyes in order to retain moisture in the ager. (4) In warp sizing to prevent the sized warps from becoming too dry. (5) In starch glues to make the paste smoother and prevent separation of water from the paste caused by contraction of the starch. (6) As a general hydroscopic and plasticizing agent. Hartexsol C is said to offer the user great economic advantages since it is available at substantially less than the cost of glycerine. (A-28)

Conveyor Leasing Plan

Gravity and belt conveyors are available on lease as a result of a new rental plan announced by James R. Sebastian, president of the Rapids-Standard Co. Inc., Grand Rapids, Mich. The company's line of "package-type" conveyors marketed under the trade name "Rapistan" are available under the lease plan, enabling firms to install and use the labor and time-saving equipment without making a major capital investment.

Manufacturers can now lease conveying equipment ranging from a single inter-floor belt conveyor to a complete materials flow system engineered to handle goods through all phases of plant and warehouse operations. The lease plan is currently available in the Chicago, Philadelphia, New York, Buffalo, and Grand Rapids, Mich., areas. Under the plan, conveying equipment is installed by Rapids-Standard for a mutually agreed-on charge. A fixed monthly sum covers use of the equipment. Insurance, maintenance, repair and personal property tax are paid by the conveyor manufacturer. Leases under the agreement are set up for a ten-year period. The monthly rental is reduced substantially after each three-year period the equipment is in use following installation. The new lease plan permits firms to fix their handling costs exactly and relieves the contracting firm of bookkeeping involved in figuring depreciation, insurance, repair and similar items. It also provides a hedge against rising equipment prices, and insures uninterrupted service through use of factory-trained maintenance men provided by the conveyor company. Firms interested in details of the conveying equipment lease plan may get full information from the nearest Rapistan distributor. (A-29)

Sargent Bulletin

C. G. Sargent's Sons Corp. announces availability of its new Bulletin No. 195 describing new Sargent washers for scouring, bleaching and acidifying all fibers on all systems. The attractive bulletin contains illustrations of installations of the new models along with an outline of their outstanding characteristics. Copies of Sargent's new Bulletin No. 195 may be obtained through request to this magazine. (A-30)

Skein Dyeing Machine

American Standard Fabricators Corp. announces availability in the United States of the Stienen high-temperature skein pressure dyeing machine, Model Gawon, with magazine loading device. It may be employed in dyeing Orlon, Dacron, nylon and all synthetic fibers or mixtures at high temperatures, as well as conventional dyeing of natural fibers. (A-31)

New Dexter Finish

A new finish, Ampitol 35D, which produces a soft, silky hand on acetate, viscose, nylon and other synthetic fibers, improves the cutting and laying up properties and helps to control static electricity, according to Dexter Chemical Corp. This substantive softener, cationic in nature, is claimed to resist dry cleaning and washing when applied either in the dye beck as a final rinse or by pad. (A-32)

Parks-Cramer Bulletin

A new 32-page bulletin, No. 1152, describing Parks-Cramer textile air conditioning and cleaning systems has been made available by the company. Profusely illustrated, the bulletin is divided into two sections: (1) Certified Climate systems, and (2) cleaning systems. Among Parks-Cramer equipment described in the bulletin is the Gradumatic humidifying system; the Turbomatic humidifying system; centrifugal humidifiers; the Certified Climate airchanger; frame cleaner Type CTF; loom cleaner Type CTL; the Parks-Cramer up-draft cleaner Type CTC; and the portable dustless card stripper. (A-33)

New Fiberglass Color Tubs

Color tubs in a range of stock sizes for the textile industry are now molded in fiberglass by Laminex Corp. Lighter of weight and less expensive than stainless steel, Laminex tubs are readily washed out, in contrast with wooden tubs which require extensive boiling after use, the firm states.

The new Laminex tubs, according to the makers, are non-corrosive, electrically nonconductive, and non-toxic. They withstand temperatures well above boiling point, and are smooth-surfaced inside and out for easy cleaning. Colors of the tubs are permanently impregnated in the material. Although extremely lightweight — the 26-gallon container, for example, weighing only 14 pounds—Laminex tubs have high resistance to impace and hence can withstand considerable wear and tear on the job. In case damage does occur, they can be quickly repaired on the spot, at room temperature, by unskilled labor using a simple repair kit supplied by Laminex.

Laminex color tubs can be closed containers, if desired, to withstand high pressure, inasmuch as the laminate can be varied by the makers to meet particular pressure requirements. Stock sizes are in capacities of ten, 25 and 50 gallons. As with Laminex tanks and trucks for use in textile plants, special sizes may be made to order. Full details and prices on the new line of color tubs is available on request. (A-34)

Speed-reduction Drive Catalog

The new Shaft-King shaft-mounted speed-reduction units are illustrated and described in a 20-page speed-reduction drive catalog just published by the American Pulley Co., originators of shaft-mounted speed reducers. The catalog gives complete information or dimensions of units, where they are used and how they are installed, including instructions on how to select the correct size unit for a given application. Cutaway and phantom drawings illustrate details of construction. (A-35)

Serving The Textile Industry

Eastman Sales Unit Formed

The marketing of chemical products manufactured by Tennessee Eastman Co. and Texas Eastman Co., divisions of Eastman Kodak Co., will be handled by a newly-formed company, Eastman Chemical Products Inc., Kingsport, Tenn. J. C. Stone, formerly executive vice-president of Tennessee Eastman Co., becomes president of the new organization. Other appointments included:

Plastics: S. E. Palmer, formerly an assistant vice-president of Tennessee Eastman Co., vice-president of Eastman Chemical Products Inc.; D. C. Williams, formerly assistant sales manager in Tennessee Eastman Co., sales manager of the new company.

Chemicals: H. L. Ford, formerly assistant vice-president, vice-president of the new company; J. E. Magoffin, formerly in charge of chemical sales development, sales manager.

Textiles and advertising: R. L. Churchill, formerly assistant vice-president in Tennessee Eastman Co., vice-president; A. A. Owen, manager of textile sales service, has the same position in the new organization, as has R. C. Tuttle, advertising director.

Eastman Chemical Products Inc. will act as sales representative for Eastman's Tenite plastics, industrial chemicals and dyestuffs, and will handle the advertising of all Tennessee Eastman and Texas Eastman products.

A. M. Tenney Associates Inc. will continue as sales representative for the company's acetate yarn and staple. All other personnel heretofore engaged in sales, sales service and advertising for Tennessee Eastman Co. will act in similar capacities for the new company.

Metro-Atlantic, Inc.

The Centredale, R. I., firm formerly known as Atlantic Chemical Co. has changed its name to Metro-Atlantic, Inc., according to an announcement by Ernest Nathan, chairman of the board and treasurer.

Organize Sales Firm

Wica Chemicals Inc., a new concern, has been formed at Charlotte, N. C., to handle sales on a nationwide basis for the Wica Co. Inc., rubber products and resins plant, on the Old Concord Road near Charlotte. William C. Caldwell Jr., an official of the parent company and the new concern, said that Wica Co. Inc. is one of the largest compounders of synthetic latex in the Southeast. It has been selling its products only in the southeastern states but now will distribute them nationally, and in Puerto Rico.

The company recently completed an expansion program which enabled it to enter the compounding field and plans to more than double its production and warehousing space in the coming Summer by building a large concrete structure on its property, which is near Newell, N. C.

Authorized capital stock of Wica Chemicals Inc. is $100,000 with Mr. Caldwell, William D. Vanderburgh of Pageland, S. C., and Marion C. Caldwell of Charlotte listed as subscribers to stock.

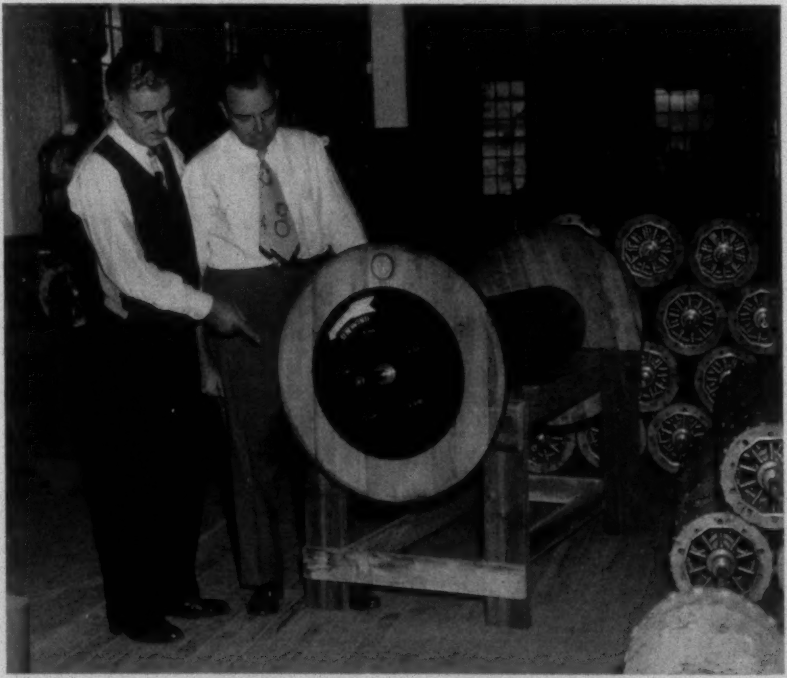
Reichhold Expanding Output

Taking an optimistic view of business conditions during the coming year, Reichhold Chemicals Inc. will accelerate its long-range program designed to increase production of basic industrial chemicals, Herbert W. Mason Jr., vice-president of purchases, said last month in a year-end statement.

Company expenditures in 1953 will be devoted, in part, to the continued development of basic materials for industry, including phthalic and maleic anhydride, formaldehyde, phenol, glycerine, sodium sulfate and sodium sulfite, Mr. Mason said. Some of the spending will also be devoted to the conversion of certain existing equipment to the manufacture of polyesters, he said. The production of basic chemicals will be aimed at satisfying the firm's needs and providing outside sales, Mr. Mason pointed out.

He noted that during 1952 the firm increased its annual supply of formaldehyde by 50 million pounds by installing a formaldehyde-producing unit at its Seattle plant and through the purchase of a "substantial" interest in Watson-Park Co., Ballardvale, Mass., a heavy producer of the material both for outside sale and for making its own line of textile processing chemicals. "These facilities, in filling about a third of our formaldehyde requirements, give us supply points on both East and West Coasts and enhance our ability to turn out both phenol and urea-formaldehyde resins."

Referring to the company's ability to supply the industries, Mr. Mason said, "It also



FORMATION OF A WARPER BEAMS AND BEAM HEADS DIVISION OF U S BOBBIN & SHUTTLE CO. is announced in a new bulletin recently released by the company. The bulletin states, in part: "Today's operating conditions in the textile industry emphasize the urgent need for better warper beams and beam heads than have heretofore been available. This is especially true in the production of high tenacity rayon tire cord, filament rayon for weaving, and nylon. To meet this need, U S has established a new division devoted exclusively to the production of superior quality warper beams and beam heads. Not only are these items manufactured to rigid specifications determined by U S engineering and development departments, but they are offered for prompt shipment and at competitive prices. By scientific tests and through actual mill use, the new U S warper beams and beam heads have already proven to be eminently satisfactory—the strongest and most durable ever made."

Examining a finished warper beam at the U S plant in Lawrence, Mass., in the above illustration, are Ralph F. Dutton, vice-president in charge of manufacturing, and (pointing) James E. Oliver, Southern sales engineer. Officers of U S Bobbin & Shuttle Co. are John G. Jackson Jr., board chairman; Charles D. Brooks, president; Ellis M. Moore, vice-president and treasurer; and Mr. Dutton.

figures to put us in a better position when the national economy inevitably returns to a supply and demand basis, when competition can be expected to bring about a general lowering of the chemical price structure and thereby promote expansion and new product development." Looking back over 1952, Mr. Mason pointed out that the company had increased its capacity for turning out di-basic acids like maleic and phthalic anhydride enabling it to move into the reinforced plastics field with a thermosetting polyester resin.

Chromium Plating Process

Marked savings in leather and shuttle costs through application of its hard chromium plating process on front plates or box binders on Draper looms is reported by Greensboro (N. C.) Loom Reed Co. George A. McFetters, president, states: "We really think we have something in hard chromium plating of these box plates, as one of our customers has over 1,900 looms running on these and is having wonderful success, and is eliminating a lot of cost."

Greensboro Loom Reed Co. has an agreement with the holder of the patent on hard chromium plating on this item. The process is covered by Patent No. 2,596,651 and is held by L. J. Carter of Plant No. 4, Cannon Mills Co., Kannapolis, N. C.

In order to eliminate leather on shuttle binders or front box plates to use hard chromium plated front box plates, special castings must be made. This casting as produced by Draper for the XL Model loom is L-61956, and for the L Model loom the number is L-44703. This casting contains a small amount of nickel in order that it may be polished to a fine finish to take the chrome plate. It is slightly wider than the conventional box plate in order to make up for the difference in the thickness of the chrome plate and the leather. The company states its process for plating these castings will prolong the life of the shuttle in addition to reducing a lot of trouble from jerked-in fillings.

Other textile parts chromium plated by Greensboro Loom Reed Co. to resist wear and rust include various kinds of thread guides, rods which synthetic yarns run over, whip rolls, cloth rolls, dent wires, expansion combs, leasing reeds, etc.

Warrington Named Agent

F. W. Warrington Co., Charlotte, N. C., has been appointed Southern sales representative of Riggs & Lombard Inc., Lowell, Mass., manufacturer of wet finishing machinery for the cotton, synthetic and worsted and woolen fabric industries. The concern's territory extends south from Charlottesville, Va., to the Gulf of Mexico and west to the Mississippi River.

Mr. Warrington, who has been in the machinery sales field since 1928, will be assisted by George W. Dudley Jr., associated with him the past ten years, and H. C. Fisher in covering the Southern area. The Warrington Co. will continue as representative in the South for Fletcher Works Inc., and National Drying Machinery Co., both of Philadelhpia; Turbo Machine Co., Lansdale, Pa., and Champion Machinery Co., Joliet, Ill.

Barco Appoints Mason

Appointment of Robt. E. Mason Co., 1726 Hutchinson Ave., Charlotte, N. C., as sales and service representative for the states of North Carolina and South Carolina is announced by Barco Mfg. Co., Chicago, maker of revolving joints, flexible ball and swivel joints, and swing joints for providing for movement and flexibility in piping. Mr. Mason and his staff are well known throughout this territory as representatives for engineering specialties and equipment used by textile, chemical, and other industrial plants in the Carolinas. In representing Barco, the Mason Co. is concentrating particularly on Barco revolving joints which are used extensively by textile mills.

Molded Nylon In Machinery

A particularly important field for molded Du Pont nylon is textile machinery. Many nylon parts—bearings, thread guides, and other items—have given years of successful service on carding, drafting, twisting, winding, knitting, and weaving machinery. There is every reason to believe that the textile industry offers a tremendous potential for further application of molded nylon.

Nylon offers this combination of properties for mechanical parts such as those used in the textile industry: (1) unique bearing characteristics, which permit it to be used as a bearing material with little or no lubrication; (2) resistance to permanent deformation; (3) lightness of weight, which means low inertia in high-speed textile operations; (4) resistance to heat, capable of continuous service at 250° F.; (5) resiliency, which permits it to absorb shock loads; (6) toughness, abrasion-resistance, and similar properties contributing to long life. The elimination of lubrication, made possible in many instances by the use of a nylon part, is of particular importance to this industry, long plagued by damage to yarn from oil stains.

In addition to these properties which contribute directly to the performance of the finished part, nylon also has certain characteristics which permit flexibility of design impossible with other materials. Nylon can be molded into extremely intricate shapes with a high degree of dimensional accuracy. It also provides economies because of short-cycle injection molding, lightness of weight (which means more parts per pound), and long service life with reduced maintenance.

Iselin-Jefferson Financial Co.

Iselin-Jefferson Co. Inc. has announced the formation of a wholly-owned subsidiary, Iselin-Jefferson Financial Co. Inc., which will act as a factor and credit department for several of the mills represented. The close association between Iselin-Jefferson Co. Inc. and William Iselin & Co. Inc. will be continued, as William Iselin & Co. Inc. will carry on as factor for the larger portion of the business.

The directors of the new corporation are Oliver Iselin, Oliver Iselin Jr., Floyd W. Jefferson, Floyd W. Jefferson Jr., Jarvis Cromwell, J. W. Hansen and John M. P. Thatcher, vice-president and general counsel; Richard E. McCormick, vice-president in charge of credits; J. W. Hansen, secretary and treasurer; Herbert W. Lengeman, assistant secretary and assistant treasurer; and Hugo Revel, assistant secretary.

Hardesty Consolidation

Announcement was made Jan. 1 that Hardesty Chemical Co. Inc. has been merged into W. C. Hardesty Co. Inc. and will operate henceforth as the Hardesty Chemical Division of W. C. Hardesty Co. Inc. The firm will continue to operate from its present headquarters at 41 East 42nd St., New York City. Howard M. Abbott, vice-president of Hardesty Chemical Co. Inc., has been appointed vice-president of W. C. Hardesty Co. Inc. Other personnel will continue in their present capacities. Products of the merged corporation will include its present lines of Century brand fatty acids and glycerine, together with Harflex plasticizers, sebacic acid and capryl alcohol.

Alexander Laboratories

Research and development work at the new Alexander Laboratories of National Starch Products Inc. at Plainfield, N. J., is being devoted entirely to liquid synthetic adhesives. These adhesives are based on the same type of chemical material that is used in the molded plastic products and synthetic fibers that are so poular today.

National's new research center was dedicated recently to the memory of Mr. Alexander Alexander, founder of the company and board chairman at the time of his death in 1940. The new building stands on an eight-acre tract of ground. Twelve thousand square feet of space are used for laboratories, special testing rooms, office, a library and a conference room for meetings and lectures.

Frank Greenwall, president of the company, states: "The savings that can come from speeding up operations, cutting waste and reducing labor are more important than ever before. These new synthetic adhesives are helping to accomplish these savings and are proving more economical and more efficient than many of the natural products which have been used for years."

Powdercraft Corp.

A plant for producing machinery parts from powdered metals is scheduled to be put into operation in Spartanburg, S. C., in the Spring, by the Powdercraft Corp., the first plant of its kind in the South. The firm will begin operations with 20 to 30 employees with future plans calling for employment of about 120 persons. In the Powdercraft process mixtures of powdered copper, tin, iron, lead and other metals are molded under extremely high pressure into machinery and appliance parts. Among products to be made in the plant are bearings, gears, cams, magnets, pole pieces, pinion blanks, bearing cages, brake adjuster tips, oil rings, friction disks, metering plugs, filters, wear plates, counter-weights and various other items.

Program For Cotton Research Clinic

Complete program for the fourth annual Cotton Research Clinic, sponsored by the National Cotton Council, was announced recently by M. Earl Heard, vice-president and director of research for West Point Mfg. Co. and chairman of the clinic advisory committee, who said that 15 well-known textile scientists, including two from Great Britain, will speak during the three-day session, Feb. 18-20, at the General Oglethorpe Hotel, Savannah, Ga. Two of the sessions will be devoted to the initial processing of cotton, during which new opening methods developed in England will be described to an American audience for the first time, Mr. Heard said, and "the vital subject of fiber and yarn strength" will be discussed at another session. Two new instruments for measuring the strength and elongation of cotton fibers will be demonstrated, Mr. Heard said.

Textile scientists scheduled for appearances during the clinic are Helmut R. Wakeham, section head in charge of cotton research, Textile Research Institute, Princeton, N. J.; Kenneth L. Hertel, director of the fiber research laboratory, University of Tennessee; Dr. Hugh M. Brown, dean of Clemson (S. C.) College School of Textiles; George W. Pfeiffenberger, spinning research director, Chicopee Mfg. Corp., Chicopee Falls, Mass.; T. L. W. Bailey Jr., Institute of Textile Technology, Charlottesville, Va.; James R. Corley, processing and new products sections, Southern Regional Research Laboratory, New Orleans, La.; William A. Newell, co-ordinator of research, North Carolina State College School of Textiles; Peter M. Strang, research engineer of Whitin Machine Works, Whitinsville, Mass.; Jack Compton, technical director of the Institute of Textile Technology; and Walter J. Hamburger, director of Fabrics Research Laboratory, Boston, Mass. Robert M. Jones, vice-president in charge of research; Robert S. Curley, development engineer, Saco-Lowell Shops, Biddeford, Maine.; William A. Hunter, Director T.M.M. (Research) Ltd., Helmshore, England; Ralph A. Rusca, head of S.R.R.L.'s machinery and methods section; and A. L. Vandergriff, head of research and development of the Lummus Cotton Gin Co., Columbus, Ga.

British scientists who will discuss the new opening and blending methods are William A. Hunter, director of T.M.M. (Research) Ltd., and Geoffrey Dakin, assistant head of the spinning department of the Shirley Institute.

Chairmen for the various sessions will be Bernard R. Koenig, assistant co-ordinator of research, Philadelphia Textile Institute; Alfred H. Randall, vice-president of Alabama Mills Inc., Birmingham, Ala.; Joe L. Delany, general superintendent, Joanna (S. C.) Cotton Mills; Dr. Leonard Smith, director of the cotton council's utilization research division; and J. Hal Daughdrill, vice-president of the American Thread Co., Atlanta, Ga.

Mr. Heard said these annual research clinics are designed to provide "an up-to-the-minute summary of current cotton research which will enable the mills to most readily utilize the research findings in practical application."

"At the same time, the meetings provide the means whereby mill men who face the day to day problems of productions, quality and cost can advise research men of their needs and requirements and also can contribute their own suggestions for the guidance of current research projects," he said.

Serving with Mr. Heard on the advisory committee are

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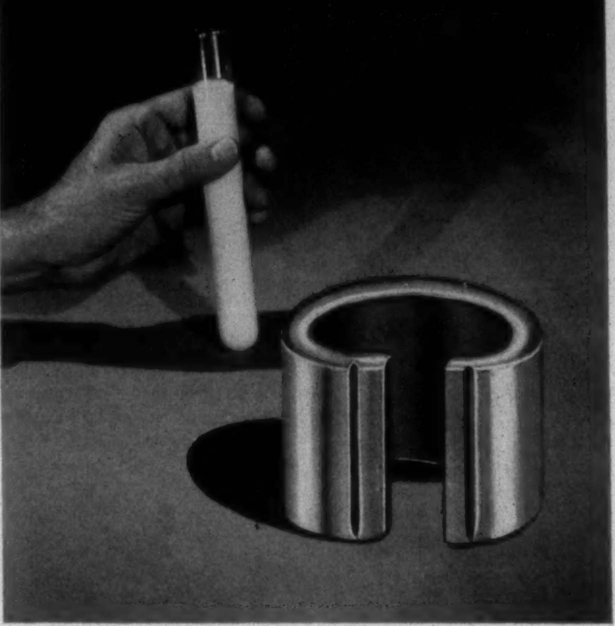

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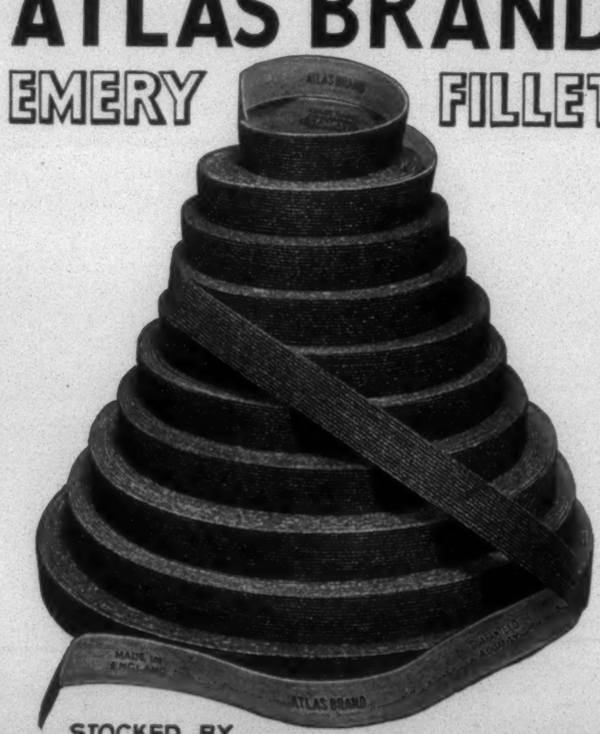

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J. B. Goldberg, director of research, J. P. Stevens Co.; Dr. Milton Harris, president of Harris Research Laboratories, Washington; V. B. Holland, director of research, Joanna Cotton Mills; Dr. Walter M. Scott, assistant chief, U.S.D.A.'s Bureau of Agricultural and Industrial Chemistry; Dr. R. Y. Winters, assistant administrator of agriculture's research administration, U.S.D.A.; George Buck, technical director of the cotton council; Dr. Brown and Dr. Smith.

Program For Cotton Council Meeting

Complete program for the 15th annual meeting of the National Cotton Council at the Adolphus Hotel in Dallas, Tex., Jan. 26-27, has been announced by Harold A. Young, council president. Headline addresses of the convention will be delivered by Sen. Burnet R. Maybank of South Carolina on Jan. 26, and Herschel D. Newsom, Washington, master of the National Grange, on Jan. 27. President Young's annual address to council delegates is scheduled for the morning of Jan. 26.

During the sessions, the more than 750 cotton industry leaders will hear reports on 1952 activities and recommendations for 1953 from program committees in the fields of foreign trade, sales promotion, public relations, production and marketing, utilization research, and trade barriers. They likewise will be given an insight into the economic situation ahead for cotton in a special outlook report. The board of directors for 1953 will be elected on the final day of the meeting as will officers of the council's 14 state units. Detailed program follows:

Monday, Jan. 26, 9:30 a.m.—Invocation by Rev. John F. Anderson Jr., Dallas; welcome addresses by Mayor J. B. Adoue Jr. of Dallas, and H. E. Vaughan, president, Dallas Cotton Exchange. Following the welcome addresses, Council President Harold Young will deliver his annual message to the convention. He will be followed by D. M. K. Horne Jr., Memphis, Tenn., chief economist of the council, with a report on the economic outlook for 1953. The morning session will be closed with a report on the council's field service activities by Field Director Clifton Kirkpatrick, Memphis. The afternoon session will get under way with the address by Senator Maybank. He will be followed by reports from three council committees: foreign trade, headed by Wm. D. Felder Jr., Dallas; sales promotion, Charles W. Shepard Jr., Gadsden, Ala; and public relations, H. L. Wingate, Macon, Ga.

On Tuesday, Jan. 27, delegates will hear the address of Herschel Newsom of the National Grange. Mr. Newsom's speech will be followed by three additional committee reports: production and marketing, Dr. Charles R. Sayre, Scott, Miss.; utilization research, Alonzo Bennett, Memphis; trade barriers, C. G. Henry, Memphis. Activities during the final afternoon will include report of the Oscar Johnston Cotton Foundation by Ward Delaney, foundation director, Memphis; report of the council's Washington representative, J. Banks Young; actions on general resolutions; report of the treasurer, Wm. T. Wynn, Greenville, Miss.; and the election of 1953 directors.

After adjournment of the general sessions, the council's 14 state units will hold their annual meetings and election of officers for the coming year. The new board of directors of the council will hold its first regular meeting on Jan. 28.

A.A.T.T. Symposium Slated Feb. 3

Marvin R. Cross, president of Greenwood Mills Inc. will speak on "New Textile Horizons Through Technology" at the second one-day symposium of the American Association of Textile Technologists Feb. 3 at the Hotel Statler, New York City. The theme of the symposium is the same as the title of Mr. Cross' talk. Divided into morning and afternoon sessions featuring three talks and a panel discussion, the symposium will also have several commercial exhibits.

The three talks scheduled for the morning session are: "Technological Development of Apparel Fabrics," by Walter E. Scholer, manager, fabric development department, American Viscose Corp.; "Technological Development of Home Furnishings Fabrics," by Otto J. Haufe, research director, Turner Halsey Co.; and "Technological Development of Industrial Fabrics," by Herbert R. Schwarz, director of research and fabric development, Wellington Sears Co. Inc. At this session, George H. Hotte, technical director, A. M. Tenney Associates Inc., will preside as chairman, and Erb N. Ditton, research director, Gotham Hosiery Co. Inc., will offer introductory remarks. The morning session will begin at 9.30 and end at 11:45. Following the luncheon scheduled for 12:45, Mr. Cross will deliver his talk. At 2:30 p.m., the panel will provide a discussion along the same lines as the morning talks.

Those slated to take part in the discussion which will afford answers to prepared and floor questions are: J. Robert Bonnar, General Dyestuff Corp.; E. H. Decker, Hess Goldsmith Co.; Charles W. Dorn, J. C. Penney Co. Inc.; Ralph M. Gutekunst, Hellwig Dyeing Corp.; Otto J. Haufe, Turner Halsey Co.; Robert Helfenbein, Golden Decorative Fabrics; Clark M. Heydon, United Piece dye Works; Frederick F. Hubach, Princeton Knitting Mills; Richard T. Kropf, Belding Heminway Co. Inc., and Waldemar Kuenzel, Deering, Milliken & Co. Inc. Also Charles A. Lasky, Celanese Corp. of America; Samuel Lippincott, American Viscose Corp.; Joseph Meirerhans, J. P. Stevens & Co. Inc.; A. L. Peiker, Calco Chemical Division, American Cyanamid Co.; Ernest Pfeiffer, Robbins Mills Inc.; Leo Rainard, Alexander Smith Inc.; Millard K. Ryan, E. I. du Pont de Nemours & Co. Inc.; Herbert R. Schwarz, Wellington Sears Co.; W. Bailey Sellars, Burlington Mills Corp.; H. E. Shearer, American Viscose Corp., and George B. Suhrie, Fox-Wells & Co. Inc. Chairman of the panel discussion is Clare W. Bendigo, American Cyanamid Co.

Exhibits will be displayed by Celanese Corp., Tennessee Eastman Corp., Union Carbide & Carbon Corp., Virginia-Carolina Chemical Co., Brabender Corp., Custom Scientific Instruments Inc.

Scholer Assumes Presidency Of A.A.T.T.

Walter E. Scholer of American Viscose Corp. assumed the presidency of the American Association of Textile Technologists, and Dr. Stephen J. Kennedy of the Office of the Quartermaster General, U. S. Army, was made an honorary member as the organization held its first meeting of the year Jan. 6 in the Builders Club, New York City.

Erb N. Ditton of Gotham Hosiery Co. Inc. is first vice-president for the coming year, succeeding Mr. Scholer. He had been second vice-president, which post is taken over by Gerard K. Lake of Burlington Mills Corp., a member of the A.A.T.T. board. Olen F. Marks of Industrial Rayon

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Corp. was re-elected treasurer and Miss Bernice S. Bronner again named secretary.

George H. Hotte of A. M. Tenney Associates Inc., retiring as president after two terms, made the presentation to Dr. Kennedy for "his outstanding contribution to the technological advancement of the textile industry."

Mr. Hotte pointed out that Dr. Kennedy had "demonstrated keen abilities in the motivation of textile research," and had "initiated, organized and set in motion the most extensive and fundamental research studies ever undertaken, which resulted in materially improved military efficiency, increased savings to the government and lasting benefits to the civilian economy."

Elected to the board of governors for three years were: Edwin E. Meier of William Skinner & Sons; Roger J. Gentilmomme of Cluett Peabody & Co. Inc. and Julius B. Goldberg of J. P. Stevens & Co. Inc. They succeeded Irene Blunt of the National Federation of Textiles; William A. Newell of North Carolina State College, and Leonard S. Little, consultant, who have served the three-year limit. Howard N. Smith of Hesslein & Co. Inc. was elected to the board for one year to finish the term of Mr. Lake.

An auditing committee chosen for the coming year consists of A. Frank Tesi of Celanese Corp. of America, M. A. Falcone of Good Housekeeping Institute, and Eino G. Railo of U. S. Testing Co.

Mr. Hotte, in rendering his annual report, noted the continuing growth of the association to 858 members, 62 of whom were chosen during 1952. He expressed his thanks to the officers, board and members who had helped so much to carry the burden of conducting the association in its "growth in size and stature."

Reviewing the year, he noted the presentation of the first annual awards to outstanding senior students at nine textile schools. He also noted postponement of a proposal to change the name of the association and broaden its scope; representation on a committee concerning formation of a joint council of textile societies; representation at a conference for establishment of tricot standards; rejection of the request to be the accreditization body for textile schools; and consideration of the formation of local chapters.

Finishers' Annual Meeting Slated Feb. 3

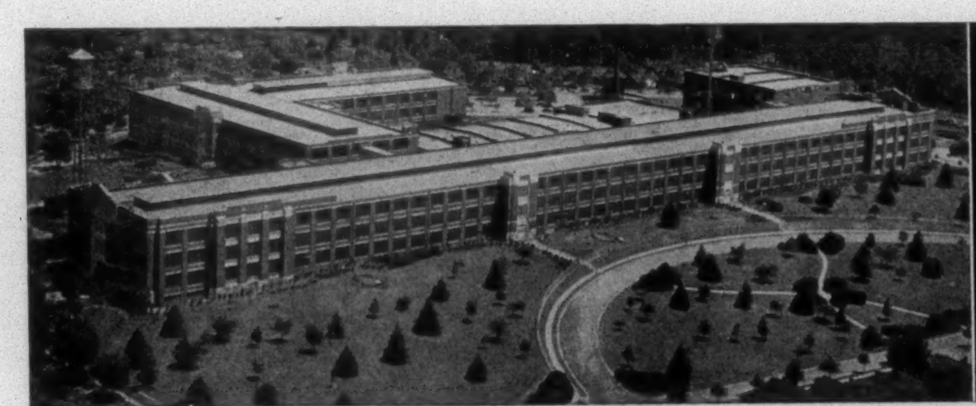
The National Association of Finishers of Textile Fabrics will hold its 39th annual meeting Feb. 3 in the Hotel Statler, New York City. Officers will be elected and reports of officers and executive committee read at the business session starting at 11:30 a.m. A social period will precede luncheon at 1 p.m. Miss Marguerite Higgins, foreign correspondent of the *New York Herald Tribune*, will be the guest speaker.

T.R.I. Cotton Advisory Group Meets

The cotton advisory committee of the Textile Research Institute held its third meeting last month at the Statler Hotel in Washington, D. C., and discussed findings of the T.R.I. cotton research project. The National Cotton Council, through its utilization research division, was host of the meeting. Dr. James H. Wakelin, director of research at the institute, served as chairman.

At this meeting the committee heard reports by members of the institute staff on recent work in cotton at Textile Research Institute. Thomas E. Welsh, textile engineer, described large scale processing experiments performed in the pilot plant of Dan River Mills Inc. at Danville, Va. These experiments have been performed on two carefully matched cotton types representing irrigated and raingrown cottons in the medium staple length and medium fineness range. Detailed results on the processing differences between these cottons were presented. Dr. Helmut Wakeham, cotton project director, discussed the results of laboratory experiments on these cottons in relation to their processing characteristics. Dr. Harris Burte, also of the institute staff, discussed problems in performing spinning trials and the significance of the results obtained at Dan River. An important part of the meeting was devoted to discussion of future experiments on the processing of other master cotton types and on the finishing of the experimental fabrics produced.

The institute's cotton advisory committee was formed two years ago to provide a basis for greater industrial participation and guidance in the cotton research program of the institute. The formal basis of this co-operative effort



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lies in the cotton research project which has as its objective a study of the relation between cotton fiber properties on the one hand, and processing characteristics and end-product quality on the other. The committee comprises representatives of institute member firms sponsoring the project and of other organizations interested in cotton research.

'Rayon Technology' Offered In Second Edition

The new edition of *Rayon Technology (Including Acetate)* will be published in February by the McGraw-Hill Book Co. Prepared by staff members of American Viscose Corp.'s technical research department, it is an up-to-date handbook of methods, pointers and suggestions for using and processing rayon and acetate on different types of machinery and equipment.

This book describes the processing of rayon and acetate staple on any spinning system (conventional as well as newly developed), and the handling of filament yarns, both rayon and acetate, from yarn to gray goods to finished fabric. Each section, written by experts in specific branches of textile manufacture, discusses new techniques and methods—the latest in machinery, spinning limits and machinery settings, fiber blending, woven and knitted fabric constructions, dyeing formulas and processes, and finishing.

Two new chapters treat the latest developments in the scientific textile revolution. "Industrial Applications" analyzes many of the new uses of rayon: for garden hose, conveyor belts, laminated plastics, suitcases, heavy-duty papers, and the like. Useful fiber properties of rayon are discussed, including Vinyon H and its applications. A chapter on "Textile Chemicals" presents the latest technical data and know-how on the functions of chemicals as related to textile applications.

Reflecting both the experiences of the authors in customer service work, and their constant research in the textile field, the second edition of *Rayon Technology* constitutes an important reference and guide for textile men. This book is priced at $7. McGraw-Hill's Book Information Service, 327 West 41st St., New York 36, N. Y., will supply further details.

Team Says British Can Solve Own Problems

"In spite of the many years of depressed conditions which have existed in the cotton industry in Britain, there exist the enterprise and will to improve productivity and thus make a substantial contribution to the recovery of the British economy." This was the opinion which ten U. S. cotton textile experts expressed in a report made public by the British Productivity Council, formerly the U. K. Section of the Anglo-American Council on Productivity. The report covered a study in 1951 of British cotton mills, sponsored by the Economic Co-operation Administration (now the Mutual Security Agency) and the productivity council. This was the first report by a U. S. productivity team on a British industry.

Emphasizing that the British cotton industry is not nationalized and that the trade unions are free of subversive influences, the report said, "with this background of freedom to act on both sides of the bargaining table, there are no problems which this industry cannot solve for itself."

The purpose of the American team's study was to make an inspection and first-hand appraisal of the progress by

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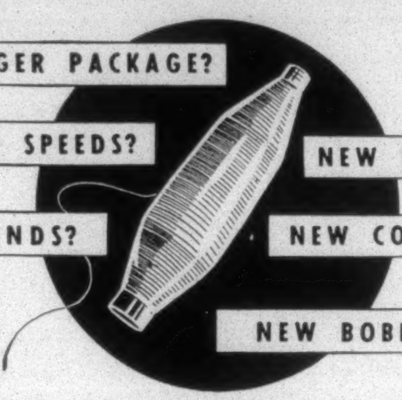
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the British cotton industry in implementing the conclusions and recommendations set forth in the reports by the spinners, weavers and doublers on the U.K. productivity teams which made technical assistance studies in the United States in 1949.

Concentrating on what they believed to be the major issue facing the British cotton industry—the efficiency of its plant and manpower in the circumstances of world competition—the U. S. experts spent three weeks in Britain. During this time the team surveyed 14 mills of various types, two machinery manufacturers, several laboratories and institutions specializing in textile work, and attended meetings with textile groups. "Time did not permit a full study of change made, under way or contemplated as a result of the U. K. teams' visits to America," the team reported, "but at least one example was seen of the adoption or some adaptation of virtually every recommendation made by the visitors from the U. K."

As a result of their observations, the Americans were convinced that "the cotton industry in Lancashire lacked no technical information that would increase productivity." The U. S. team felt, however, that Lancashire's management and labor had not always applied the available store of technical knowledge as fully or as rapidly as the urgency of the times demanded. In addition to various technical suggestions to aid those mills in Lancashire which have not brought themselves up to date, the U. S. team's report emphasized the necessity for an accelerated re-equipment program, better utilization of existing labor and greater co-operation between labor and management in the British cotton industry.

The road to higher productivity in the British cotton industry "has been surveyed and mapped and road signs have been erected at every turn and intersection" by the industry's own study groups, the team concluded, "and a lead has been given by a few bold management and trade union leaders."

The leader of the U. S. productivity team was C. C. Dawson, secretary of the Southern Combed Yarn Spinners Association, Gastonia, N. C. Other members were: George H. Dunlap, technical consultant, North Carolina State College School of Textiles, Raleigh, N. C.; Allen E. Gant, secretary, Glen Raven Cotton Mills Inc., Burlington, N. C.; Jesse B. Hart, treasurer, Joanna (S. C.) Cotton Mills Co.; John W. LeFevre, engineer, Local No. 753, United Textile Workers of America, (A.F.L.), New York Mills, N. Y.; H. Dorsey Moseley, vice-president, United Textile Workers of America (A.F.L.), Winnsboro, S. C.; Horace L. Pratt, laboratory director, Columbia Mills, Mt. Vernon-Woodberry Mills Inc., Columbia, S. C.; Chandler Robbins II, assistant to the president, Bates Mfg. Co., Lewiston, Me.; Eugene E. Stone III, president, Stone Mfg. Co., Greenville, S. C.; and Curtis E. Anderson, industrial specialist, U. S. Section, Anglo-American Council on Productivity.

Flammability Standard Effective Jan. 30

Flammability of Clothing Textiles, Commercial Standard CS191-53, having been endorsed by the industries concerned, becomes effective on Jan. 30, the Commodity Standards Division, U. S. Department of Commerce, announced recently.

Several years ago a number of fatalities resulted from the extremely flammable character of certain articles of clothing, particularly long-napped rayon chaps of children's cowboy suits. It was realized that before legislation could be passed to control the sale of safe and unsafe clothing a nationally recognized method would be required for distinguishing between safe and unsafe clothing textiles.

The American Association of Textile Chemists and Colorists together with the National Retail Dry Goods Association undertook a series of investigations to develop a reliable method of test and apparatus for conducting the test. The Commodity Standards Division was requested to act as a co-ordinating agency to secure national recognition of the method. A number of laboratories made an extended series of tests to correlate the method with the practical experience of the industry. Recent publicity arising from the discovery of highly flammable brushed rayon sweaters on the market sped up the work on the development of the standard.

The standard represents the combined opinion of an industry committee representing cotton and rayon producers, and fabric manufacturers, finishers, converters, wholesalers, retailers, and consumers, co-ordinated by the American Association of Textile Chemists and Colorists and the National Retail Dry Goods Association. It is to serve as a guide in the manufacture and sale of only those commodity textiles which are not dangerously flammable. It provides the public with the maximum protection from such textiles and at the same time permits the unrestricted merchandising of the great majority of those fabrics which are known to have no unusual burning characteristics.

It includes standard methods of testing clothing and tex-

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tiles intended for use in clothing; establishes three classes of flammability: Class 1, covering those textiles generally accepted by the trade as having no unusual burning characteristics; Class 2, covering those textiles recognized by the trade as having flammability characteristics between normal and rapid and intense burning; and Class 3, covering those textiles recognized by the trade as being unsuitable for clothing because of their rapid and intense burning. It establishes limiting requirements for identifying each of these three classes.

Printed copies of the standard will be available later from the Superintendent of Documents. Until that time mimeographed copies of the recommended standard accepted by the industry (TS-5131) may be obtained by addressing a request to Herbert A. Ehrman, Commodity Standards Division, United States Department of Commerce, Washington 25, D. C.

A.S.T.M. Standards On Textile Materials

The latest edition of *A.S.T.M. Standards on Textile Materials* (660 pages, $5), issued last October, has been made available to the industry by the American Society for Testing Materials, 1916 Race St., Philadelphia, Pa. The October 1952 edition of this compilation includes in their latest form 99 specifications, test methods, and tolerances developed by A.S.T.M. Committee D-13 on Textile Materials. Considerable other related material is given.

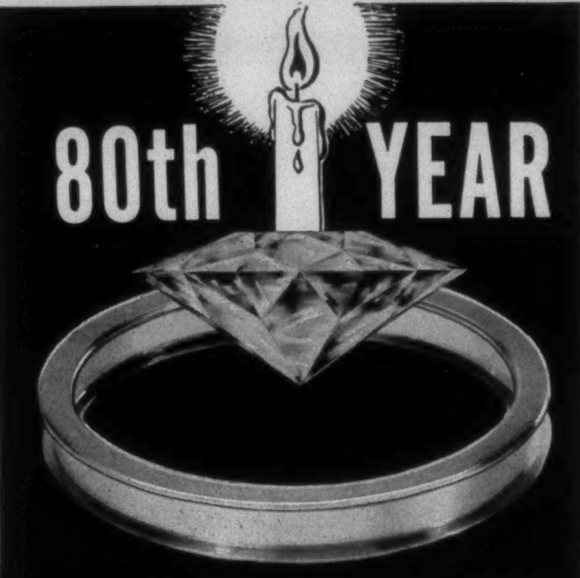
Standards cover: Asbestos, bast and leaf fibers, cotton, glass textiles, rayon, acetate and silk, wool, pile fabrics (carpets), felt; and general fibers, fabrics, yarns, threads and cordage. Also identification, qualitative, and quantitative analysis; and resistance to insect pests and micro-organisms. General test methods cover testing machines, humidity, and interlaboratory testing. There are tests on stretch and snag resistance of hosiery, and a recommended practice for the designation of yarn construction.

Extensive sections give photomicrographs of common textile fibers and photographs of defects in woven fabrics; a glossary of textile terms, and terms relating to hand of fabrics. Included are technical papers by Robert R. Jones and Thomas F. Evans, entitled respectively, "An Application of Statistics to Quality Control in the Textile Industry" and "Statistical Considerations in Fiber Research."

Appendices cover basic properties of textile fibers, a psychometric table for relative humidity, and a yarn number conversion table. Also, proposed methods of test cover evaluation of properties related to the hand of soft-finished woven fabrics, accelerated aging of textiles, estimating the clean wool content in wool in the grease, and fire retardant properties of treated felt. Other appendices cover proposed recommended practices for calculating number of tests to be specified in determining average quality of a textile material and fineness of cotton fibers by resistance to airflow by Arealometer method and Micronaire method. A convenient table of contents is included (by subject and A.S.T.M. serial designation) and an extensive index.

Synthetic Yarn Market Shows Recovery

The year 1952 witnessed a marked recovery in both production and shipments of rayon and acetate filament yarn and staple, according to *Textile Organon,* statistical bulletin of the Textile Economics Bureau Inc. Production of yarn and staple, which had averaged 112,000,000 pounds



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monthly for the first eight months of 1951, fell steadily until a low point of 79,000,000 pounds was reached in April of 1952. Recovery from that point forward was evident, however, and output from August through November was around 105,000,000 pounds per month.

In its review of 1952 developments, the *Organon* points out that producers' shipments started to fall off much earlier than production with the result that stocks began to climb sharply as early as July 1951, until the end of March 1952. At that time producers' yarn and staple inventories hit an all-time high of 120,000,000 pounds. These stocks were worked down from April of 1952 through November and by the end of the latter month they totaled 75,000,000 pounds or about a three weeks' supply in relation to shipments.

The non-cellulosic fibers, on the other hand, according to the *Organon,* showed a steady upward trend in production through the first quarter of 1952, a slight drop in the second quarter and then resumed the upward tendency in the third quarter.

The *Organon,* summarizing its previously-published study of man-made fiber capacity, notes that the rise in viscose high-tenacity yarn capacity from November 1952 through late 1954 will be from 457,000,000 pounds to 510,000,000 pounds. Rayon regular+intermediate tenacity yarn capacity in the same period should go from 284,000,000 pounds to 286,000,000 pounds; acetate yarn from 390,000,000 pounds to 398,000,000 pounds; rayon staple+tow from 230,000,000 pounds to 360,000,000 pounds; acetate staple+tow from 158,000,000 pounds to 171,000,000 pounds; non-cellulosic filament yarn+monofilament from 238,000,000 pounds to 340,000,000 pounds; and non-cellulosic staple+tow from 81,000,000 pounds to 208,000,000 pounds.

The current over-all man-made fiber capacity is now placed at 1,838,000,000 pounds annually and by October 1954, it is estimated by the *Organon* that it will rise to 2,273,000,000 pounds, an increase of 24 per cent in the two-year period.

Imports of man-made staple, which amounted to 90,800,000 pounds in 1951, are expected to approximate 70,000,000 pounds in 1952. In the first quarter of 1952, it appeared that 1951's imports would be exceeded, but, in succeeding quarters they fell off sharply. The imports consist mainly of viscose rayon staple but also include acetate staple and Perlon staple from Germany. The *Organon* observes that a foreign source estimates United States imports of the latter at an annual rate of 3,000,000 pounds.

Man-made staple imports in November totaled 3,608,000 pounds, the smallest for any 1952 month. For the first eleven months, staple imports totaled 65,445,000 pounds compared with 84,941,000 pounds in the corresponding period of 1951, a drop of 23 per cent. Imports of rayon and acetate filament yarn were nominal and will probably not exceed 200,000 pounds as against 5,081,000 pounds in 1951 and 6,384,000 pounds in 1950.

Rayon and acetate regular tenacity yarn exports last year were estimated by the *Organon* to be in the vicinity of 8,500,000 pounds, or substantially lower than the 1951 total of 10,882,000 pounds. High tenacity viscose yarn exports, however, will be approximately 3,000,000 pounds or 15 per cent higher than such shipments abroad in 1951, but 24 per cent lower than 1950.

Rayon staple and tow exports were fairly insignificant last year with an estimated 500,000 pounds suggested from available data. Acetate staple and tow shipments abroad, on the other hand, were close to the 3,000,000-pound mark during 1952.

The *Organon,* analyzing rayon and acetate shipments by trades, points out that broad weavers, who took an average of 133,800,000 pounds per quarter in 1950, continued at slightly better than that rate for the first half of 1951. The severe drop in shipments in the second half of 1951, however, pulled the 1951 quarterly average down to 107,500,000 pounds. With sales to broad weavers continuing very slow through the middle of 1952, it appears that the latter year's average will fall below 1951 in spite of the pick-up beginning in the third quarter.

Shipments of tires and related uses were the one bright spot in 1952, according to the *Organon.* From the 1950 quarterly average of 75,300,000 pounds, shipments jumped to 81,100,000 pounds in 1951 and for the first three quarters of 1952, were at a quarterly average rate of 100,100,000 pounds. The *Organon* points out that during 1951, the tires and related uses trade displaced the broad weavers as the number one customer of the industry.

In 1951 the hosiery, circular knit, warp knit, narrow woven goods, miscellaneous and export trades together accounted for 118,700,000 pounds of rayon and acetate filament yarn, or 14 per cent of the total shipments of 873,000,000 pounds. In the first nine months of 1952, these trades took a total of 72,100,000 pounds against total shipments of 632,700,000 pounds in the period, or 11 per cent.

An analysis by the *Organon* of use of man-made fibers in men's and boys' apparel, reveals that great strides have been made in 1951 and the first nine months of 1952. In four men's wear items, namely regular weight suits, Summer weight suits, separate dress and sport trousers, and sport and utility shirts, it is notable that man-made fibers increased their share of total fibers in 1951 both in relative and absolute terms at a time when total apparel output was showing a decline.

In 1951, man-made fibers made their first major inroads into men's regular weight suits, a field that had always been dominated by all-wool fiber. While in 1950 only 321,000 regular weight suits, or one per cent of the total, were of man-made fibers, by 1951 the figure rose to 1,205,000 suits or eight per cent of the total. In the first nine months of 1952, it had reached almost nine per cent of the total.

Make Initial Shipment Of Acrylonitrile

An initial shipment of acrylonitrile, an important raw material for the new acrylic fibers, was made recently from Monsanto Chemical Co.'s plant at Texas City, Tex. Charles Allen Thomas of St. Louis, Monsanto president, and J. R. Mares, vice-president and general manager of the Texas Division, participated in ceremonies christening the first tank car of acrylontrile to leave the plant. The first car was shipped to the Chemstrand Corp. at Decatur, Ala.

Acrylonitrile is being produced by Monsanto from acetylene from natural gas rather than by the conventional process from calcium carbide. R. U. Haslanger, general sales manager of the Texas Division said, "This new source of supply of acrylonitrile will be good news to the chemical industry. The growth of the synthetic fiber industry will be greatly helped by this new large productive capacity."

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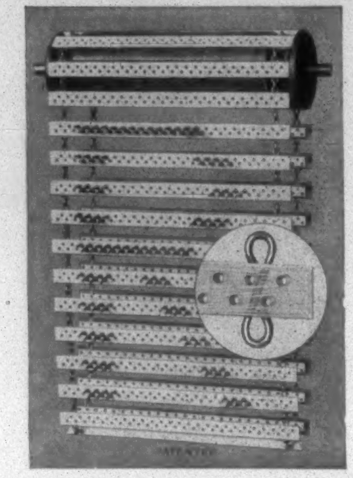

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facture of the new acrylic fibers such as Chemstrand's Acrilan. Monsanto production will be divided between Acrilan and other uses.

In addition to its use in synthetic fibers, acrylonitrile is widely used by the chemical industry in the manufacture of anti-oxidants, dyes, emulsifying agents, plasticizers, insecticides, fumigants and photographic emulsions. Combined with butadiene, acrylonitrile is used to produce Buna N, a special type of synthetic rubber. Co-polymers are also used in the manufacture of a variety of resins and emulsions for use in the paper, leather, paint and textile industries.

Growth Of Synthetics Alarms Australians

Prof. T. G. Hunter of the University of Sydney, Sydney, Australia, says that synthetic fibers have developed so fast that within ten years the United States will probably not need to buy any natural wool. Dr. Hunter is professor of chemical engineering and is considered an authority on synthetic fibers. He was discussing a recent warning by wool brokers that synthetic fibers may soon confront the Australian wool industry with a serious crisis.

Professor Hunter said: "Australian wool-marketing methods are medieval, and our national policy on the wool industry is suicidal. We are completely neglecting to take the most elementary precautions to protect the wool industry, although it is gravely threatened and though it represents more than half our overseas trade.

"The threat of synthetic fibers to the wool industry has grown alarmingly. The position now, not in a year's time, demands immediate attention by the federal government. My only fear is that it may already be too late.

"For Australia's attitude during the financial talks in London to be influenced by the desire to sell more wool to the U. S. is unreal. The plain fact is that in another ten years it is improbable that the U. S. will need to buy a single bale of wool from us or anyone else.

"Figures issued by the acting Commonwealth statistician reported a fall of $27,048,000 in the value of wool purchases by the United States over the period July-October, 1952.

"At the same time, in America, the Textile Economics Bureau has called attention to the fact that despite the recent recession in the U. S. textile trade, production of the synthetic fibers, nylon, Orlon, Dacron, dynel, and others, rose from 63.9 million pounds in the first quarter to a new high of 65.6 million pounds in the third quarter of 1952.

"It is a significant fact that with the exception of nylon all the synthetic fibers mentioned are wool substitute fibers."

Future Bright For Fabulous Fibers

"The miracle of the man-made chemical fibers is still in the making, and more interesting developments are still to be achieved" is the optimistic new year's note sounded by a leading raw material producer for rayon and acetate, most widely-used of man-made fibers. Clyde B. Morgan, president of Rayonier Inc., the chemical cellulose producer, said recently that there's a bright future ahead for all the new fibers, and predicted that broader uses and larger markets for them will continue to unfold.

He said that each of the new fibers has its own specific uses, and that continuing research and development is bound to uncover even greater opportunities as chemical control of products and processes is further refined. Mr. Morgan pointed out that the per capita consumption of cellulose fibers is increasing every year, and that the seven pounds per capita consumption of the United States last year is sure to be surpassed as living standards improve.

Stressing the importance of research, he asserted that the top position enjoyed by acetates and rayons in many fields is due primarily to continuing laboratory research such as is conducted by Rayonier and the major synthetic fiber producers. He singled out tire cord, woven industrial hose, and rugs as areas where rayons are increasingly being used. He noted that Rayonier technical developments have been contributing to improved manufacturing techniques and to the tensile strength and washability of rayons and acetates which are adding up to "increased consumer acceptance of the finished products."

Mr. Morgan said that his enthusiastic outlook for the future of the cellulosic fibers was based upon steady population gains together with higher standards of living, plus the important fact that the cellulosics are based upon the replenishable raw material: cellulose, "found in all plant life."

Other, non-fiber, uses of chemical cellulose such as CMC (carboxymethylcellulose) and related cellulose gums are doubling their volume yearly, Mr. Morgan said. He attached new market opportunities to CMC as new uses for this interesting compound are being found. "It's being used in everything from detergents and ice cream to lipstick and ceramics," he said.

Rayonier is currently accounting for over 400,000 tons per year of the chemical cellulose required for the production of rayons and acetates, cellophane, tire cord, film, and other products of cellulose, Mr. Morgan said.

Nylon Supply Outlook Improved For 1953

Although the production of nylon yarn and staple has increased greatly in the last five years, the fiber still remains under tight ration, according to the National Industrial Conference Board. Current output of nylon is estimated at 150,000,000 pounds a year, and the construction program for new nylon facilities can boost the output rate well over 200,000,000 pounds annually in 1953. The board in its study of nylon noted that the President's Materials Policy Commission placed the demand for nylon at 300,000,000 pounds in 1960 and 800,000,000 by 1975.

Current military use has declined since 1951 when between 35,000,000 and 40,000,000 pounds were consumed, the board pointed out, but a large proportion of the output still goes to the armed forces for manufacture of parachute cloth, nylon tire cord, blended uniform cloth, parachute strapping and target tow rope.

Projected increases in capacity, it was said, coupled with expected declines in military use would seem to point to a rapid closing of the gap between civilian supply and demand. It is estimated that presently civilian supplies of the fiber have risen to upward of 120,000,000 pounds annually.

The use of nylon in hosiery has grown to the point that virtually all full-fashioned and seamless hose for women are made of the fibers. Since 1948 filament requirements for women's hosiery have been around 25,000,000 pounds annually. In addition 6,000,000 pounds of nylon staple will be used for men's and boys' half-hose this year. The

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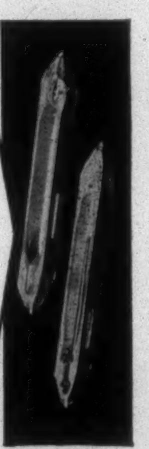

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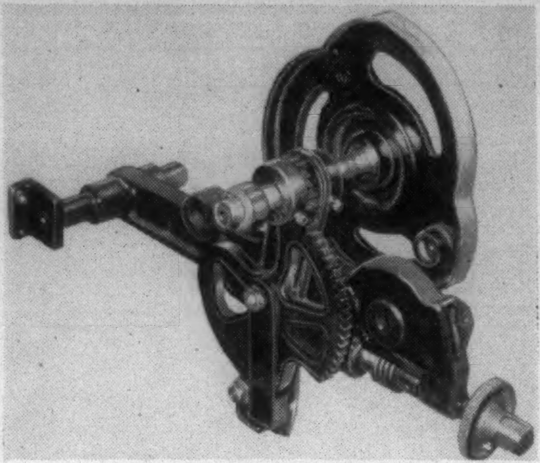

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trend toward sheerer fabric in women's hosiery has brought about a significant decline in the fiber requirements for individual pairs of stockings.

The most significant increase in the use of nylon has been in woven fabrics for lingerie, blouses, shirts and dresses. In 1948 weaving mills produced 33,000,000 linear yards of 100 per cent nylon fabrics. This figure jumped to an annual rate of 270,000,000 yards by the middle of 1952.

It was estimated by the board that in 1953 knitted outerwear will consume about 20,000,000 pounds of nylon. In the first quarter of 1952 more than a million dresses were being cut from nylon fabrics, and nylon blouses have moved into prominence at a similar pace. In men's wear nylon has not made the inroads experienced in women's wear. In 1951 men's nylon shorts, underwear and pajamas were estimated to have consumed about 9,000,000 yards. Drapery, curtain and upholstery fabrics consumed about seven per cent of nylon fabrics produced in 1951.

S. C. Textile Industry Featured In Ad

The textile industry of South Carolina and of the South, in general, is prominently featured in a unique four-page advertisement—printed in metallic gold—which appears in the January issue of *Fortune*. Created by the Roland G. E. Ullman Organization Inc. of Philadelphia for one of its clients, the Daniel Construction Co. of Greenville, S. C. and Birmingham, Ala., the advertisement is headed "These Plants Have Struck Gold in South Carolina," and features the sweeping technological and industrial growth of the South during recent years. Pointing to specific installations that are a part of this growth, it concentrates on the modernization of textile mill design and the number of new textile mills that have appeared during this period, as well as to the expansion of existing facilities. Attention is also directed to the developments in synthetics of all kinds that point so promisingly to the future.

The advertisement is unique not only in featuring an area of the country and business, in general, rather than the specific client, but in certain technical respects, as well. It is the first time that four full pages in a single issue have been devoted to one advertisement in *Fortune* and the first time that it has printed an advertisement in metallic gold.

Part of a continuing series prepared for the Daniel Construction Co. by the Roland G. E. Ullman Organization Inc., this initial advertisement will be followed by others featuring other of the Southern states. The second in the series—devoted to the State of Alabama—will appear in the March issue of *Fortune*.

Du Pont To Aid Teaching Of Chemistry

A new program intended primarily to assist and advance the teaching of chemistry in American colleges and universities will be begun by the Du Pont Co. next Fall, it was announced recently. Thirty-two institutions will receive new fellowships or grants for the next academic year as the result of a comprehensive survey by the company that revealed the need for such assistance.

In one plan under this program, grants have been made to 19 four-year private colleges to help them maintain their outstanding performance in the training of students majoring in chemistry. In the other, the company has awarded postgraduate fellowships to 13 universities to improve the teaching of chemistry to undergraduates. These new plans broaden the company's present program of support for postgraduate study and fundamental research in the universities. An authorization of about $600,000 was provided by Du Pont for the new assistance and to continue its previous programs for fellowships and grants-in-aid for the academic year of 1953-54.

The new plans result from nearly a year of discussions with educators, other companies, foundations, and government agencies concerned with education and research, to determine appropriate and effective means by which Du Pont could aid education further. The need for assistance to advance the teaching of chemistry became evident during this survey, which included 49 universities and colleges in addition to many other organizations. Du Pont officials said this is the first time industrial aid programs of this type have been offered, so far as they could learn.

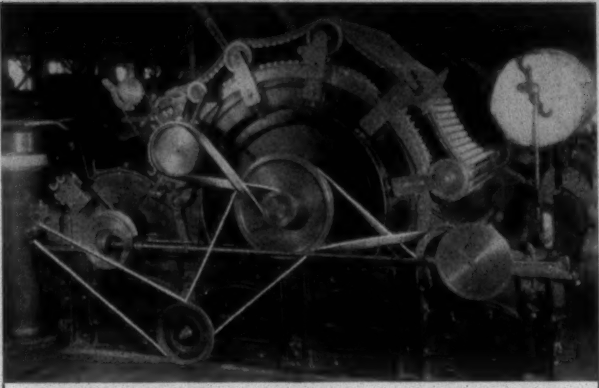
"Teaching is a field which merits industrial support," Crawford H. Greenewalt, president of the Du Pont Co., said. He pointed out that research and graduate study in science are supported "on a large scale" in the universities by the government and other organizations, supplemented by industry, such as Du Pont grants-in-aid of fundamental research in chemistry. "Teaching as such is not supported by these agencies," Mr. Greenewalt said. "Yet, the maintenance and encouragement of high-quality teaching is vital to the future supply and quality of scientists and consequently research."

As is the case with its long-standing program of fellowships and grants-in-aid, Du Pont is making the new awards to the institutions selected and leaving the decisions on detailed use of the funds up to them. Under the older program, the company has renewed its awards of postgraduate fellowships in scientific fields, granting 38 in chemistry, 15 in chemical engineering, five each in physics and mechanical engineering, three in metallurgy, two in biochemistry, and one in biology. It also continued its grants-in-aid of $15,000 each to ten universities and $10,000 each to five universities. These grants are to "stock-pile" knowledge through the support of unrestricted fundamental research in chemistry.

The new grants of $2,500 for advancing the teaching of chemistry have been awarded to the chemistry departments of 19 colleges, all private institutions that have outstanding records in the training of four-year chemistry majors. The purpose is to assist these colleges in maintaining and improving their performance in teaching chemistry to undergraduates. The funds are to be used according to the judgment of the colleges themselves as to what will best advance teaching and stimulate interest in chemistry. This includes such things as purchase of equipment or books; paying for visiting lecturers; trips by staff members to scientific meetings; and student aid.

This plan is not only a recognition of the important place in American education held by the colleges, but especially of their success in training high-quality graduates and sending them on to graduate schools. The survey found the success of many of the colleges to be "quite astonishing."

These awards have been awarded to Amherst (Mass.) College; Antioch College, Yellow Springs, Ohio; Carleton College, Northfield, Minn.; College of Wooster, Wooster, Ohio; Dartmouth College, Hanover, N. H.; DePauw University, Greencastle, Ind.; Franklin and Marshall College, Lancaster, Pa.; Haverford (Pa.) College; Juniata College, Huntingdon, Pa.; Middlebury (Vt.) College; Monmouth



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(Ill.) College; Oberlin (Ohio) College; Pomona College, Claremont, Calif.; Reed College, Portland, Ore.; St. Olaf College, Northfield, Minn.; Swarthmore (Pa.) College; Union College, Schenectady, N. Y.; Wabash College, Crawfordsville, Ind.; and Weslyan University, Middletown, Conn.

Each of the new postgraduate teaching fellowships provides $2,400 for the year for unmarried fellows and $3,000 for married fellows, plus an award of $500 to the university and payment of tuition and fees. They have been offered to the chemistry departments of 13 universities for award to outstanding graduate students who have had two years' experience as half-time teaching assistants.

By means of the fellowships, it is expected that the universities can take advantage of the teaching experience gained by these men instead of losing it, as is generally the case now. Much of the laboratory instruction in undergraduate chemistry courses in big universities is given by graduate students who have had little or no experience in teaching. After two years of this, most of the graduate students drop the teaching and devote their full time to study and research. Thus the benefit of their accumulated experience and advanced training is lost to teaching.

These fellowships have been offered to California Institute of Technology, Cornell University, Indiana University, Iowa State College, Massachusetts Institute of Technology, Ohio State University, Purdue University, State University of Iowa, University of Illinois, University of Kansas, University of Minnesota, University of Nebraska, and University of Wisconsin.

Quality Control Curriculum Offered

In keeping with its policy of revising, eliminating, or adding textile courses to the changing needs of the textile industry, the School of Textiles, North Carolina State College, has established a fourth-year optional curriculum in textile quality control. The courses will be under the direction of D. S. Hamby, associate professor at the school.

The purpose of the courses, Professor Hamby said, is to turn out graduates better trained to fill the growing needs of the textile industry for men trained in control and improvement of the quality of textile mill products. In the past few years, he pointed out, 27 mills have hired graduates of the State College School of Textiles specifically for work in control of process and product quality. The courses, he explained, will give graduates a thorough grounding in testing techniques, quality control methods, evaluation and interpretation of test results, and co-ordination of quality control with mill operations.

The subject matter of the courses to be included in the fourth-year option will be testing techniques, statistical analysis and evaluation, quality-control-chart techniques and programs, defect-preventive methods, military specifications, administration of testing and research programs, laboratory layout and organization, and process control.

The U. S. Department of Agriculture has proposed an increase of five cents (from 30 to 35 cents) per bale of cotton in the fee charged for reviewing classification of cotton under Cotton Futures Act regulations. The increase applies only to reviews of classing of cotton for delivery under futures contracts and not to classing under the Cotton Standards Act.

Elimination Of Economic Controls Asked

The board of directors of the American Cotton Manufacturers Institute, at a recent meeting in Charlotte, N. C., adopted a resolution calling for "complete elimination of direct economic controls." The resolution declared that no standby legislation should be enacted because "the threat of action" would serve as a barrier to "the full play of economic forces," and expenses for these measures "would be contrary to the recognized urgency to reduce government expenses."

The A.C.M.I. board asserted it is necessary to "clear the atmosphere of negative policies born during a time of fear and indecision. The economy needs the freedom to adjust itself to a sound price structure, with the law of supply and demand once again able to determine prices and wages.

"As the textile mills amply demonstrated, price controls are needless and wasteful when productive forces have the ability to turn back inflation," the resolution read in part. "Moreover, the textile industry's experience under controls provided a lesson of the harm that comes from tampering with price mechanisms.

"Rumors of controls, even before they were imposed, disrupted markets with false fears of scarcity, led buyers to make excessive commitments, overstimulated production and created huge inventories. While price controls remained, activity from cotton fields through the mills and channels of distribution fell into stagnation, with closed mills and unemployment as the result.

"Suspension of textile controls brought confidence back into the market places. More orderly processes of sales and production were resumed, making visible the signs of textile business recovery.

"Similarly unshackled, American industry as a whole would stand to gain, and this would benefit the entire economy, of which textile manufacturing is an integral part. For not only do textiles in their many forms comprise a basic component of the American living scale, essential to numerous industries as well as to all the people, but also as a supplier of goods or purchaser of materials and services, this industry is intimately interrelated with other major industrial and agricultural segments of the economy."

Third Quarter Cotton Broad Woven Output

Cotton broad woven goods production totaled 2,323 million linear yards in the third quarter of 1952, according to figures released by the Census Bureau, Department of Commerce. Although vacation periods fell in this quarter, production was still three per cent above that in the second quarter. Cotton tire cord and fabric production continued to drop, the bureau reported, the 19 million pounds reported being the lowest quarterly figure since 1943. Synthetic tire cord and fabric output, however, was up slightly compared to the second quarter.

Yarn consumed in the manufacture of fabrics in the third quarter of 1952 totaled 888,633,000 pounds, as compared with 908,067,000 pounds in the second quarter and 910,968,000 in the third quarter of 1951. Cotton accounted for 768,342,000 pounds of the third quarter 1952 total.

Spinning spindles in place and active Sept. 27 1952 totaled 16,275,132. Of these, 15,155,179 were active on the first shift, 14,754,466 on the second shift, and 12,-

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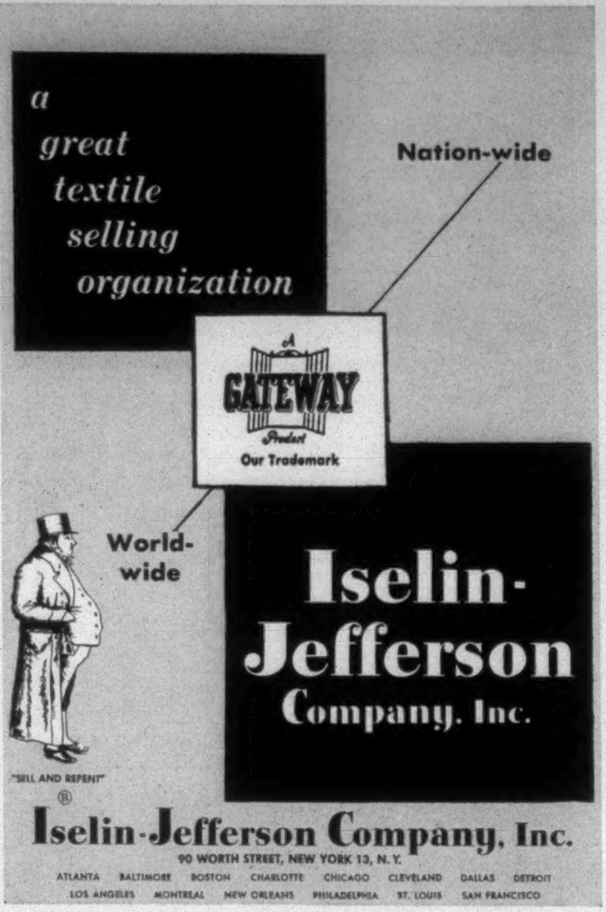
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065,289 on the third. Looms in place and active on the same date totaled 393,462, with 359,233 being active on the first shift, 350,597 on the second and 278,565 on the third.

Jackson Says Price Recovery Is Lagging

A trade association official has described the textile industry as nearing what would be a state of "prosperity" but for lagging price recovery and predicted that reasonable earnings as well as expanded activity should lie ahead in 1953. Robert C. Jackson, executive vice-president of the American Cotton Manufacturers Institute, the industry's over-all trade association, said that while recovery in price factors has not kept pace with recovery otherwise, prices historically are the last thing to fall in line.

In the meantime, as the result of this situation, he told the Atlanta Rotary Club in an address, the nation's cotton mills are currently producing goods which in the primary markets represent the best values since the end of World War II. There is good reason, he said, to believe that foreign buyers feel this way, too, since latest figures show that October exports exceeded 70,000,000 square yards, a sizeable increase over September, while exports of major competitor nations at the moment are dropping.

"This is happening even though more than a score of foreign lands virtually debar the importing of American-made textiles and is evidence that U. S. quality, style, variety and ability to fill orders promptly are powerful assets in international trade," he added.

In regard to the price picture, Mr. Jackson said that so-called "mill margins"—which are published government figures reflecting the difference between cost of cotton and the selling price of yarn or goods—did not begin to respond to the recovery movement until October, and then only very modestly. Quite obviously during the Summer, he pointed out, the industry operated on a below-cost basis. In October, he said, the margin exceeded that of the preceding October by 2.8 cents per pound, and in November the margin widened by less than a cent, putting that month a little above the depression November of 1951, but making it otherwise the lowest November since 1945.

But though price recovery is lagging, he said, renewed forward buying and increased shipments have stimulated U. S. production to the extent that if present cotton consumption is sustained for the rest of the crop year ending July 31, it will amount to 9.7 million bales compared with 9.2 million last year. He pointed out that, allowing for the sharp seasonal decline of about 15 per cent which takes place in July, the industry's vacation month, the present rate would still indicate a total annual consumption of more than 9.5 million bales.

Against a backdrop of mounting retail sales, he cited,

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the manufacturing industry's inventory is now down to a normal operating volume of about three weeks' production, whereas only seven months ago the heavy volume of excess inventory represented from five to six weeks' production. Also, he added, unfilled orders now represent over ten weeks' production whereas seven months ago, when the primary buyers were purchasing on a hand-to-mouth basis, the mills had a backlog averaging only about six weeks' production, entirely inadequate for either production processes or acquisition of raw material.

"The rising trend of civilian consumption of cotton goods is supported by the broad foundation of increasing industrial activity throughout the nation, by a continually growing volume of employment, a steady upward movement of total personal income and a population that is increasing rapidly," he asserted.

The A.C.M.I. executive cited the continued high consumption rate of cotton during recent years as one of the factors which has led to confidence in the competitive future of American cotton and, along with a new psychological outlook, a conviction throughout the whole industry that the cotton economy has entered a "dramatic new era of progress."

"One way to measure the change," he said, "is in terms of cotton's markets. In the years 1934-39, the American mills consumed annually an average of 6.9 million bales of cotton; the 1945-49 average was slightly in excess of nine million bales and in 1951 the consumption was estimated at 9.2 million—a gain of 33 per cent over the 1934-39 average."

While many persons at first feared the synthetic fibers would take over cotton's markets, he said, the man-made fibers have had a pronounced stimulating effect upon the industry's competitive spirit, manifested in a well-organized movement of research, progress and growth.

Mr. Jackson cited that the recent increase in cotton consumption in the Fall months has been made despite a marked decline in certain heavy items of output such as duck, bag sheetings, tire cords and osnaburgs—attributable to reduced military procurement and an extremely heavy influx of burlap from India. He added: "Within recent weeks there has been a definite improvement in the market for industrial fabrics, and when this is reflected in extended output, the rate of cotton consumption will show further substantial gains."

E. O. Fitzsimons, executive vice-president of the Carded Yarn Association, recently announced that the group will hold its 1953 convention Oct. 29-30 at the Grove Park Inn, Asheville, N. C.

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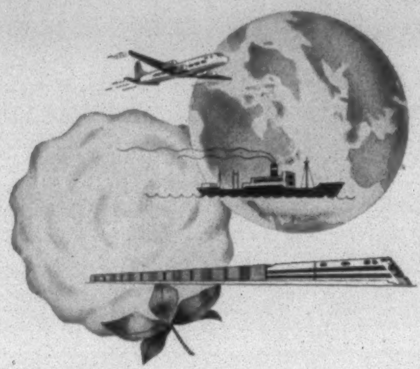

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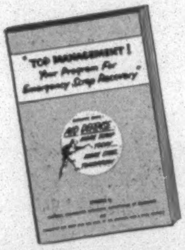
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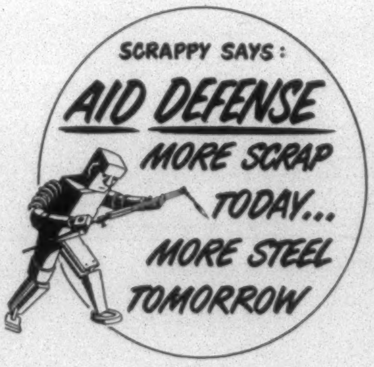

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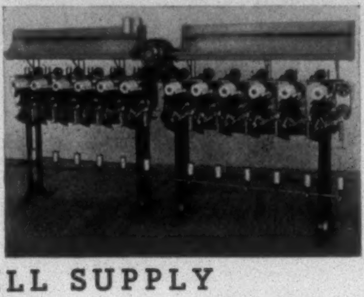

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WARWICK CHEMICAL CO., DIV. SUN CHEMICAL CORP. Main Office: 1010 44th Ave., Long Island City, N. Y. Sou. Plant: 907 White St., Rock Hill, S. C., J. D. Snipes, Mgr. Sou. Reprs.: M. M. McCann, Box 825, Burlington, N. C.; Minor Hunter, 1136 Skyland Rd., Charlotte, N. C.; H. Papini, E. R. Adair, Box 1207, Greenville, S. C.; W. E. Searcy, 425 Tilney Ave., Griffin, Ga.

WATSON & DESMOND, 301½ W. Fourth St., Charlotte 1, N. C. Repr.: John Wyatt, P. O. Box 701, Greensboro, N. C.; R. V. McPhail, 709 S. Jackson St., Gastonia, N. C.; A. J. Bahan and M. R. Woods, P. O. Drawer 779, Greenville, S. C.; Edgar A. Ball (Chemical Dept.), Charlotte, N. C.; H. K. Smith, P. O. Box 472, West Point, Ga.

WATSON & HART, 1001 E. Bessemer Ave., Goldsboro, N. C.

WATSON-WILLIAMS MFG. CO., Millbury, Mass. Sou. Reprs.: John Wyatt, P. O. Box 701, Greensboro, N. C.; Arthur J. Bahan, P. O. Box Drawer 779, Greenville, S. C.

WEST POINT FOUNDRY & MACHINE CO., West Point, Ga.

WESTVACO CHEMICAL DIVISION, 161 East 42nd St., New York 17, N. Y. (Food Machinery & Chemical Corp.) Sou. Office: Liberty Life Bldg., Charlotte, N. C., Bishop F. Smith, Dist. Sales Mgr.

WHITIN MACHINE WORKS, Whitinsville, Mass. Sou. Office, Whitin Machine Works Office and Plant, Dowd Road, Charlotte, N. C., R. I. Dalton, V.-Pres. and Sou. Agt.; Charlotte Repair Shop, Z. C. Childers, Sales Mgr.; Atlanta, Ga., Office, 1015 Healey Bldg., B. B. Peacock, Sou. Agt.; Spartanburg, S. C., 724 Montgomery Bldg., R. W. Dunn, Sou. Agt.

WHITINSVILLE SPINNING RING CO., Whitinsville, Mass. Sou. Repr.: William K. Shirley, 11 Wyuka St., Greenville, S. C.

Before Closing Down

— TEXTILE INDUSTRY HAPPENINGS AS THIS ISSUE WENT TO PRESS —

PERSONAL NEWS

Hugh Puckett, formerly Southern district manager of the industrial chemicals division of American Cyanamid Co., has been promoted to manager of the firm's specialty products department. He will continue to make his headquarters in Charlotte, N. C. Mr. Puckett has been associated with the chemical industry since 1922 and for the past 25 years with American Cyanamid's industrial chemicals section. His long sales experience and intimate knowledge of the rapidly expanding Southern industrial market makes him well fitted for his new responsibility.

James B. Hamil has been appointed to the engineering division of Fulton Bag & Cotton Mills, Atlanta, Ga., and will assist in the co-ordination of plant engineering. A graduate of Georgia Tech, Mr. Hamil formerly was associated with Westinghouse Electric Corp. and Brumby Metals Inc.

Russell B. Newton has joined Deering, Milliken & Co. Inc. as president of the Deering, Milliken Research Trust. Mr. Newton will be in charge of the company's research activities, making his headquarters at Pendleton, S. C., where the research trust is located. Mr. Newton resigned last September from Dan River Mills, Danville, Va., after having been with the company for 12 years, the last three as president. . . . Dr. Norman C. Armitage, who has been president of the Deering, Milliken Research Trust, will be associated with Mr. Newton as vice-president.

H. S. Colbath, plant engineer at Bibb Mfg. Co., Macon, Ga., served as discussion leader for two round table conferences on plant maintenance in textile plants at the Plant Maintenance Show in Cleveland, Ohio, Jan. 19-22.

Stanley F. Banas has resigned as director of costs and budgets for Wamsutta Mills, New Bedford, Mass., to become controller of Susquehanna Mills, Sunbury, Pa. Mr. Banas went to Wamsutta from Textron Southern Inc., Anderson, S. C., in 1949.

Ralph Gossett Sr. has retired as head of Ralph Gossett & Co., Greenville, S. C., after 34 years in that position. Mr. Gossett founed the company which bears his name in 1919. It is one of the largest of its type in the country, representing 18 firms which manufacture all types of textile supplies and machinery. Mr. Gossett, who is 62 and in good health, will maintain his office in Greenville to handle his other business interests, but will take more time off for traveling, fishing, etc. . . . Mr. Gossett was succeed as head of Ralph Gossett & Co. by his son, Ralph Gossett Jr., who has been connected with him in business since his release from the Navy in 1946.

Fletcher S. Culpepper has rejoined Saco-Lowell Shops and is now working out of the firm's Charlotte, N. C., sales office. Mr. Culpepper was with Saco-Lowell before becoming associated with Stonecutter Mills Corp., Spindale, N. C.

Joe E. Spearman has joined American Lava Corp., Chattanooga, Tenn., as its Southeastern representative for AlSiMag thread guides. He will make his headquarters at 401 Belton St., Charlotte, N. C. Mr. Spearman is well known to textile men in the Southeastern area because of his recent sales work in that area for a manufacturer of textile chemicals. He has a B.S. degree in textile chemistry and dyeing from Clemson (S. C.) College and a M.S. degree in synthetic fiber processing and industrial engineering from Georgia Tech.

Dudley M. Dunlop has become associated with Product Sales Inc. as sales representative in the South Carolina territory. Mr. Dunlop was associated with Universal Winding Co. for six years before joining Product Sales. He is well known in the Carolinas, having served that territory for Universal since May 1949.

H. Paul Ebert has been named superintendent of Arista Mills, Winston-Salem, N. C. Mr. Ebert has been with Arista for 12 years and has served as acting superintendent since last May.

John H. Temple has been named to the newly-created post of special representative to the textile industry by International Business Machine Corp. He will make his headquarters in Charlotte, N. C. He previously was I.B.M. manager in Tampa, Fla.

William H. Raye Jr., a vice-president of the First National Bank of Boston, Mass., has been elected to the board of directors of Saco-Lowell Shops.

Robert T. Stevens, who recently resigned as board chairman of J. P. Stevens & Co. following his appointment as Secretary of the Army, also has resigned as a member of the board of the American Cotton Manufacturers Institute. . . . John P. Baum, vice-president and executive officer of M. T. Stevens & Sons Co., Southern Division of J. P. Stevens & Co., has been named assistant executive officer of M .T. Stevens & Sons Co. . . . The finance committee of J. P. Stevens & Co. has elected Wilbur T. J. Carter as chairman. Mr. Carter is an executive officer of the Carter operation group with headquarters at Greensboro, N. C. Mr. Carter succeeds Mr. Stevens.

Harry Riemer, editor of *Daily News Record*, has been named chairman of an industry advisory committee for the textile unit of the City College of New York Midtown Business Center. In accepting the chairmanship, Mr. Riemer said: "There is, and has been, a great need for a textile training school at the adult level in New York."

Mrs. Mildred B. Andrews of Vienna, Va., has been named public relations director for the American Textile Machinery Exhibition of 1954, an event sponsored by the American Textile Machinery Association. Mrs. Andrews has had wide experience in the textile and allied fields, having served for more than 16 years as executive secretary of the Southern Combed Yarn Spinners Association.

Dr. Milton Harris, head of Harris Research Laboratory, Washington, D. C., has been elected chairman of the newly-organized Washington section of the American Association of Textile Chemists & Colorists. Other officers elected at the organizational meeting were vice-chairman, Henry D. Barker, head of the cotton and other fiber crops and diseases division, Agriculture Department; secretary, George S. Buck Jr., technical director, National Cotton Council; treasurer, H. E. Ehrman, of the Commodity Standards Division, Commerce Department; and counsellor, Dr. Walter M. Scott, assistant chief, Bureau of Agricultural and Industrial Chemicals, Agriculture Department.

Masten R. Dalton *(left)* will become associated with the Chemstrand Corp. Feb. 1 as head of the firm's new Southern sales office in Charlotte, N. C., at 221 South Church St. Mr. Dalton for almost seven years has been connected with American Viscose Corp. He joined Avisco in April 1946 as a research chemist. In 1950 he became associated with the Avisco sales department and subsequently was appointed head of the firm's rayon staple sales office in Charlotte. . . . John Reid has been promoted to head the acetate sales division of Avisco in the Charlotte office, succeeding Norman A. Cocke

QUARTER CENTURY CLUB MEMBERS—Albert R. Jube *(right)*, president of Collins & Aikman, gets hearty handshake from W. F. Bird, executive vice-president, as the latter presents him with emblem marking Mr. Jube's 30th year with the company. Seventy-three other members of the company received similar emlems at this year's Quarter Century Club meeting. Of the 5,000 employees in C. & A. mills and offices, 714 have been with the company over 25 years.

Jr. who headed acetate sales in this office until he became district sales manager at Charlotte on Jan. 1. Mr. Cocke succeeded as district sales manager Henry K. Kelly, who retired Dec. 31. Mr. Reid has been with Avisco since 1946. . . . J. Reid Durbin, formerly of the New York office, has been promoted to head the rayon staple and tow sales division in the Charlotte office. Mr. Durbin, who joined Avisco in 1946, served with the textile research department of the firm before joining the sales staff in 1950. At Charlotte he succeeds Mr. Dalton. . . . John Wiggins, who joined the general rayon sales staff in New York in December, will take Mr. Durbin's place in New York.

Edwin A. Robinson has been elected a vice-president of Nopco Chemical Co., Harrison, N. J., and will be in charge of the textile fibers department and the textile specialties department.. Dr. Robinson joined Nopco from the Tennessee Eastman Corp. in 1936 and has held a number of responsible posts in the company since that time. He was made an assistant vice-president in 1951.

LaRue Hendrixson, Harold J. Michel and C. B. Shoemaker have been made assistant managers by American Viscose Corp. Mr. Hendrixson, who has served for the last five years as production manager, will supervise filament and tire yarn production in the Lewistown and Marcus Hook, Pa., Parkersburg, W. Va., and Roanoke, Va., plants. Mr. Michel, who has been manager of the Marcus Hook plant for the last three years, will supervise cellophane operations which are located at Fredericksburg, Va. Mr. Shoemaker will supervise staple and tire yarn production of the Nitro, W. Va., and Front Royal, Va., plants. . . . F. Farwell Long, who has served as plant manager at Lewistown for the last three years, is returning to Marcus Hook as plant manager. Christopher W. Buehl has been appointed to serve as plant manager of the Lewistown plant. Mr. Buehl has been manufacturing superintendent in that location since July 1947.

Arthur Kalish of the equipage purchasing branch of the Armed Services Textile and Apparel Procurement Agency, New York, recently received a letter of commendation from Brig.-Gen. R. P. Hollis, head of the agency, for his participation in the organization and training of personnel within the contract administration branch of the A.S.T.A.P.A. purchasing division.

Roy T. Cowing of Lynnfield, Mass., has been appointed branch sales manager for the Merrimac Division of Monsanto Chemical Co. at its Charlotte, N. C., office. Robert N. Foster of Charlotte was named technical sales specialist in textile chemicals for that area. Mr. Cowing will be succeeded as consumer products manager of the Merrimac Division by Winfield E. Drown of Melrose, Mass., alcohol and solvents sales manager.

Harry Price has retired as a vice-president of Celanese Corp. of America after 26 years of service with the company. Mr. Price, prominent in the textile industry for more than a quarter of a century, was named yarn sales manager of the company in 1939 and a vice-president in 1945.

Harry E. Whitmore has joined the staff of Reilly Tar & Chemical Corp. to promote the sale of products from the company's newly-formed synthetic organic chemicals department. Mr. Whitmore received his chemical education at Pennsylvania State College. He is councilor of the Chicago Section of the American Chemical Society, editor of its chemical bulletin, and chairman of that section's committee on manpower. He is listed in the current edition of *American Men of Science.*

Thomas Henderson, for many years a representative of the Draper Corp., is now associated with Thackston & Redding Inc., Spartanburg, S. C., as a textile consultant. Mr. Henderson will devote his time to loom inspections, loom surveys and weaving problems of the industry. His office is located in the Montgomery Building in Spartanburg.

Ben Mayo and James Bennett, formerly assistants to the superintendent, have been promoted to divisional superintendents at Rock Hill (S. C.) Printing & Finishing Co. . . . Durward Costner, formerly superintendent of the color department, also has been made a divisional superintendent.

M. L. Cates, treasurer of Arkwright Mills, Spartanburg, S. C., and Pacolet (S. C.) Mfg. Co., recently was elected a director of the advisory board of the Citizens and Southern National Bank of South Carolina.

William O. McMullan has been promoted from overseer of the second shift in the cloth room to general overseer of the cloth room at Clarkesville (Ga.) Mill, a unit of United Merchants & Manufacturers. Mr. McMullan is a graduate of Clemson (S. C.) College with a B.S. degree in textile engineering and has been with Clarkesville Mill since December 1951. . . . Simpson Logan, with the firm since February 1952, has been promoted to succeed Mr. McMullan as second shift overseer in the cloth room. Mr. Logan previously was associated with the Lumite Division of Chicopee Mfg. Co. at Cornelia, Ga.

James Balloch has joined the sales staff of Jacques Wolf & Co. and will cover South Carolina, Georgia and Tennessee. A graduate of Clemson (S. C.) College, Mr. Balloch was formerly with Pacific Mills, Lyman, S. C., and Renfrew Bleachery, Travelers Rest, S. C. He is well-versed in textile dyeing, printing and finishing. Mr. Balloch resides in Greer, S. C.

OBITUARIES

Edward S. Allen, 64, vice-president and treasurer of Whitin Machine Works, Whitinsville, Mass., died Jan. 10. Mr. Allen had been associated with Whitin since 1918. He also was treasurer of Fay-Scott Corp. of Dexter, Me., a Whitin subsidiary. Surviving are his wife and two daughters.

Stanhope A. Summey, 71, superintendent of Alexander Mfg. Co., Forest City, N. C., from Dec. 1 1918 until his retirement last September, died Jan. 14 of a heart attack. Mr. Summey was for 24 years associated with Henrietta Mills before joining Alexander when the latter mill began operations in 1918. Surviving are his wife, four sons, two sisters and a brother.

MILL NEWS

PELZER, S. C.—Pelzer Mills, a subsidiary of the Kendall Co., has announced that arrangements are being made to sell the homes in the Pelzer Mills village to employees. With the exception of a few homes and business properties in the village, which will be retained by the company, all residences will be offered to employees through the R. E. Drew Co. realty firm of Anderson, S. C. Present occupants will have the first option on purchases. Pelzer Mills presently is setting up a savings plan, using payroll deduction, by which employees planning to purchase homes may save the down payment between now and June, when final sales will be made. The incorporated town of Pelzer after June will operate the village water and sewerage systems.

LIBERTY, S. C.—The new dye unit at the Liberty Plant of Woodside Mills is now in full operation, turning out a variety of colored yarns. The mill now has a complete operation for the production of fine combed chambrays.

EASLEY, S. C. — Tumble Twist Mills, producer of loop rugs, has been purchased by Belrug Mills Inc. of Greenville. No substantial change in the operation of Tumble Twist is contemplated, it is reported. The Tumble Twist name will continue to be used.

TIFTON, GA.—Installation of machinery for the production of woolen goods is currently under way at the Tifton plant of American Woolen Co. and production is expected to begin in June. Some of the woolen looms are being shipped to Tifton from American's closed Sawyer Mill in Dover, N. H., and others are being transferred from the Champlain Mill, Winooski, Vt., where there has been a cutback in operations.

SELMA, N. C.—Millville (N. J.) Mfg. Co., manufacturer and finisher of cotton goods, recently purchased the capital stock of Selma Cotton Mills, a unit of Interchemical Corp. of New York. The firm will now be known as Selma Mills Inc. After machinery changes are made the plant will produce fabrics which will be sold by George Wood Sons & Co., selling agent for Millville Mfg. Co.

FOREST CITY, N. C.—A deed filed recently reveals that Florence Mills has been dissolved by its stockholders and that all of its assets and holdings would henceforth belong to Cone Mills Corp. Florence Mills utilizes 18,912 spindles and 502 looms in the production of napped goods.

MARION, N. C.—Three building projects have been approved by directors of Marion Mfg. Co. (1) The building of a second story on Warehouse Nos. 1, 2, 3 and 4 involving 20,000 square feet of floor space. Object of this project is to provide additional warehouse space, to streamline opening and picking operations, and to give more floor space in the card room for the addition at some future date of more cards, drawing and fly frames. (2) Immediate construction of a new lunch room at the north end of the mill. (3) Removal of the brick fire walls between the cloth room and offices and between the cloth room and slasher room on the first floor; and between the picker room and warper room on the third floor.

HENDERSONVILLE, N. C.—Standard Tytape Co., manufacturer of cotton braid and tape, is moving its operations from Asheboro, N. C., to Hendersonville. A new 160 by 200-foot plant, representing an investment of about $300,000, including equipment, is expected to be completed and in operation about April 1. The new facility is located on Clear Creek Road, just north of Hendersonville city limits.

Whitehead Representatives

In order to establish more direct contact with its customers, Whitehead Engineering Co. of Atlanta, Ga., is now being represented by its own sales engineers, instead of exclusively by Meadows Mfg. Co., which will continue to represent the firm. Roy Schrimshire of Columbus, Ga., is representing Whitehead in Georgia, Alabama, Tennessee and Mississippi; the Coleman Co. of Greenville, S. C., in South Carolina; and Matthews Equipment Co. in New England, Canada and the New York textile area. Whitehead Engineering Co. manufactures Permalite aluminum alloy separators and Permalube oilless saddles and nebs.

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Announcement

ATLANTIC CHEMICAL CO., INC., Centredale, R. I., have changed their corporation's name to METRO-ATLANTIC, INC., Centredale, R. I.

The change, effective January 1, 1953, has been made to associate the firm more closely with the dyestuff business of Metro Dyestuff Corporation, Quidnick, R. I., now a subsidiary of METRO-ATLANTIC, INC.

In Canada the wholly-owned subsidiary formerly known as Roxbury Chemical Co.-Canada-Ltd., will be known as METRO-ATLANTIC (CANADA), LTD., Granby, Quebec.

METRO-ATLANTIC, INC. will continue to offer their complete line of textile processing chemicals under their tradename of ATCO. They will also offer Metro Dyestuff Corporation products to the trade under the tradename of METRO*. Vat colors will be sold as METROVATS*, azoic colors as METROGENS*, and pigments and clears as METROTONES*.

* TRADEMARK

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